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THE COUNTY OF VULCAN
AGRICULTURAL SURVEY

WINNIPEG - TORONTO - VANCOUVER

HEDLIN MENZIES
HM
& associates LTD.



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THE COUNTY OF VULCAN
AGRICULTURAL SURVEY

Prepared for:
The County of Vulcan

November, 1967

WINNIPEG - TORONTO - VANCOUVER

HEDLIN MENZIES

& associates LTD.

PRESS RELEASE

Re: Hedlin, Menzies & Associates Ltd. study of costs and returns to wheat producers in the County of Vulcan

The average cost of producing a bushel of wheat in the County of Vulcan in southern Alberta in 1965 -- the last year in which data was available -- was \$1.57 a bushel. The net price of No. 3 wheat -- assumed to be the average grade marketed in the County averaged approximately \$1.60 during that same year.

The average cost figures were developed by Hedlin, Menzies & Associates Ltd., consulting economists of Winnipeg, Toronto and Vancouver. The work was undertaken on account of the County of Vulcan. The cost to the 1,000 Vulcan County farmers of acquiring an estimate of the cost of producing wheat was \$12.00 each. The farmers themselves, through their County Council bore the cost of the research.

The cost of producing a bushel of wheat varied widely within the County, largely on the basis of the size of the farm operation. As farm size grew larger the cost of production declined.

Large farms -- defined in the study as being more than 1,280 acres -- had an average cost of \$1.47 a bushel -- a full 10 cents below the average of the County. At the other extreme farms of one section (640 acres) or less in size had a cost of \$1.90 per bushel -- 33 cents above the average of the County and 30 cents above the estimated average price realized in the local area by the farmers who produced the grain. The average cost of production on medium farms -- defined in the study as not less than 641 acres or more than 1,280 acres -- was \$1.63 -- six cents above the average cost in the County and three cents above the average price received.

On certain well managed large farms the average cost of producing a bushel of wheat was reduced to \$1.19 per bushel.

The average size of farm in the County of Vulcan is 1,202 acres. The County of Vulcan is one of the better wheat producing areas in Western Canada and is typified by a large proportion of large and efficient family farm units. In 1965 the estimated average yield in the County was 30 bushels on summerfallow, compared with the long term average estimated at 22 bushels per acre. In spite of this relatively good yield more than half the farmers in the County failed to cover their production costs when interest on invested capital and a return to the labour and skill of the operator are included as legitimate charges against the farm enterprise.

J. W. Clarke of Hedlin, Menzies & Associates Ltd., who was in charge of the work, advised the Council of the County of Vulcan that it should not be assumed that the situation will be improved in subsequent years as costs have inflated relative to the price of wheat.

The work is continuing and cost of production figures will be developed for subsequent years as the necessary data becomes available.

COUNTY NO. 2 AGRICULTURAL SURVEY

FOREWORD

In 1966 The County of Vulcan retained Hedlin, Menzies & Associates Ltd. to carry out a three-year study of the economic aspects of farming within the County boundaries. The basic purpose of this programme is to develop a greater depth of information concerning agriculture in Vulcan County so that its relative position within the province and the industry can be assessed from year to year.

Because of a general lack of economic data on a County basis in Canada, the consultants considered it essential to place a resident research assistant within the area on a continuing basis for the entire three-year period. We are pleased to note that during the first phase of the study complete co-operation was obtained from the County Council, the Agricultural Board, the County staff and particularly the individual farmers.

This is the first of three annual reports. It is based mainly on survey data compiled in the County from farm records pertaining to the 1965 production year. It presents a preliminary picture of the level of resource use obtained by a representative sample of farms within the County and has been designed in such a way that it will form the basis for a self-generating economic evaluation of the area and an individual farm management programme.

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COUNTY OF VULCANCOST OF WHEAT PRODUCTION
STUDY

INTRODUCTION

There is no doubt that technological progress in agriculture is forcing the farm manager to acquire a more detailed accounting knowledge of the particular business he is running. He must be aware of the full consequences of his decision making activities concerning the utilization of resources. He must be knowledgeable regarding the characteristics of the industry and economy of the country. He is also being forced to have some understanding of the consequences of unstable levels of production on prices in an environment characterized by an inelastic domestic demand for food on one hand and a competitive export market on the other.

Whatever the causes of farm problems may be, however, farmers are taking steps on an individual basis and through group action to add to their management skills and their understanding of the industry and to improve their relative position in the economy. Through improved record keeping and analysis more and more farmers are getting to know their own business as they seldom did in the past. Also by effective study and analysis of the industry and its varied regional aspects many farmers are becoming acquainted with the true dimensions of the obstacles they must overcome.

On May 24th of this year, a large delegation of farmers

confronted the Government of Canada and asked for attention to their general needs and problems. They indicated that they felt a high degree of uncertainty about their future economic well-being and made it clear that they wanted a re-assessment of old policies relating to agriculture and a design for new policies that would grapple with their legitimate needs.

Their requests were rational and showed a clear grasp of the problems and an eagerness to co-operate with Government in obtaining a mutually satisfactory solution. There was some evidence to show that they realized the farm problem is not merely a price or income problem but that it goes deeper and is in considerable measure a product of the existing structure of the agricultural industry.

They recognized and acknowledged the fact that a healthy agricultural industry is built on the basis of viable farm units. Furthermore they recognized that in a dynamic and growing economy agriculture is bound to change and that individual farm units cannot remain unchanged. They must be subject to continuous modification over time. This realization that the status quo cannot be protected and held static is the first big step forward in the process of solving farm problems.

It seems perfectly clear that full information must be gathered concerning the strengths and weaknesses of the industry in order to develop sound national policy. If this is so, then information about the strengths and weaknesses of the individual

farm units that make up the industry must also be made available to the individual farm manager and decision maker if he is to continue to manage a viable production unit.

It is generally recognized that if a farm is to continue to survive and pay its way over a period of time its costs of production must be below total receipts. In fact, the net return must be sufficiently large to provide the farmer with a reasonable level of living as well as incentive to continue with the production process.

The County of Vulcan has taken the initial step to provide itself and its individual farmers with such information. On the basis of data gathered for the production year 1965 it is evident that many farmers did not reach a satisfactory level of performance in that particular year. Specific information on the causes of such circumstances in a year when wheat yields were generally good is vital to the farmers concerned. Also, hopefully it will help indicate whether the individual farmer's problem is due to poor management or is caused by generally broader and widespread industry ills.

This report provides information on the costs associated with producing wheat which is clearly indicated to be the main crop of the County.

STUDY SETTING, OBJECTIVES AND APPROACH

The Study Base

Successful farmers provide the base for an economically successful agricultural business community. Businessmen in any agricultural community are dependent upon the combined success of the individual farmers. In their own interest as well as that of the area as a whole, businessmen are anxious that farmers have the necessary tools and knowledge with which to keep their farm businesses viable and efficient. Their active support of projects that will contribute toward the efficient use of resources within the local economy can virtually be taken for granted.

Farmers on the other hand have recognized that they have considerable control over the efficiency with which they produce and as a result are trying to learn as much as possible about their business and the results of their management decisions. However many farmers have neither the training nor the inclination to keep detailed records for analysis purposes.

The various extension services have limited facilities and personnel with which to teach accounting and individually assist farmers. Technological advancement has not progressed to the point in the grain growing areas where farm management services, like various other services, are offered to farmers by private companies such as the grain, fertilizer, fuel or chemical companies. Until

this day arrives, many farmers will have to shift for themselves in this field.

The County of Vulcan is leading the way in providing its business community with general cost of production data as well as developing a simple and practical method whereby the initial step in farm business analysis can be readily taken by any farmer that keeps an income tax record.

The present cost survey has been constructed so as to provide information on what might be described as the average farm situation in the County of Vulcan but it should be recognized that this study has been based on records voluntarily submitted for analysis. Readers are cautioned that to the small degree that the farmers who assisted in this work do not accurately reflect the total population of farmers of the County of Vulcan the results will be less than perfectly representative of the County situation. Any discrepancy here however does not reduce the value of the report as a means of evaluating individual farms. It merely suggests that the County situation may or may not be completely described by the sample of farms analyzed.

The individual farmers who are participating in this particular study recognize that they are not only supplying information for the benefit of the County as a whole but they also realize that adequate records provide the details required to determine what aspects of their own farm plans could be modified to advantage.

Adequate knowledge of past performance allows such managers to determine the action necessary to achieve personal farm goals.

Objectives

Within the above context the objectives and purposes of this study may be briefly summarized as follows:

Primary Objective

1. Obtain the basic necessary information and calculate the cost of production of wheat in the County of Vulcan.

Secondary Objectives

1. Develop a greater depth of information concerning the agricultural industry of the County of Vulcan and its relative position within the province.
2. Develop and test out a simple, practical and yet analytically satisfactory method of business analysis that can be used by the majority of farmers to analyze their farm businesses from data that can be made available mainly from records kept for income tax filing purposes.
3. Provide information for policy considerations at County, Provincial and Federal level.

Approach

In meeting such objectives it was recognized that farm consolidation and technical advance have greatly changed farm production practices over the last decade. This suggested that

current data was required for a useful analysis and dictated that a sampling of business firms presently in operation be undertaken.

Most present day farm accounting and business analysis programmes require a great deal of detailed record keeping. Considerable time and effort must be expended by the farmer to provide adequate data for analysis purposes. This requirement often discourages farmers who are not trained in such skills from participating in business analysis programmes which in turn suggests that the farmers who do keep detailed records are not representative of the total farm population.

To try to overcome this handicap a special procedure was devised for the Vulcan County study. It does not require a great volume of specialized accounting skills and practices but utilizes the available information farmers normally keep for income tax reporting plus a minimum amount of additional data.

This method of approach however provides a somewhat different breakdown of data than normal farm management accounting methods and prevents the use of certain detailed procedures that are commonly used in more costly and time-consuming programmes. The data is as accurate as that obtained by any other method. Certainly, it must stand the year by year scrutiny of the Department of National Revenue officers which should be an important check on its accuracy and give assurance of its long term validity. Over a period of years where the broader basic assumptions and estimates

are given time to average themselves out any minor weaknesses of the system with respect to detail of data will normally be outweighed by its usefulness in terms of ease of participation by farmers.

The method of approach used in this analysis hopefully will contribute towards promoting the general use of simple farm management analysis procedures by farmers who want to expand their income tax record keeping for business analysis purposes. This could add greatly to total knowledge of the farm business and provide a simple means whereby farmers individually or through regional groups can utilize basic data to assess their competitiveness in the agricultural industry. The co-operation of Income Tax Division officials would most assuredly be forthcoming in such a development.

A treasure of basic farm management data lies dormant in the income tax files of thousands of Canadian farmers. The farmers of the County of Vulcan have seen fit to take initial steps to make use of this data in a way that may well provide useful management information for individual decision making and policy information for government bodies concerned with the welfare of the region.

BASIC ASSUMPTIONS AND HYPOTHESES

Assumptions

1) It is assumed that a farmer's labour and management input to the farm business has a value comparable to that provided by managers in other industries. A western Canadian farmer who operates a viable grain production unit with many thousands of dollars of fixed and working capital has demands on his ability at least equal to those made on managers of urban businesses of comparable size. This study uses an arbitrary figure of \$300. per month for operator's labour input and an additional \$100., \$200. and \$300. per month for the management input supplied to small, medium and large farms respectively.

2) It is assumed that the sample of farms analyzed are representative of all farms in the County of Vulcan. When obtaining the sample the names of the farmers who were willing to assist in this study were provided by each district representative of the County Agricultural Advisory Board. In this way the farms studied were scattered geographically across the farming area of the County and included examples of the various sizes and types of farms within the County. (See Table 1, page 10)

3) It is assumed that the profile of the wheat farm is representative of the County of Vulcan. This assumption is supported by the fact that average seeded acreage reported on 1966-67

TABLE 1

COUNTY OF VULCAN
 Number of Farms in Survey Sample,
 Classified by Size and Predominant Soil Type
 1965

10

Category Size of of Farm Soil	B	C	D	Total Number
Large	3	12	13	28
Medium	8	19	7	34
Small	4	12	0	16
Total Number	15	43	20	78

TABLE 2

COUNTY OF VULCAN
 Average Seeded Acreage Per Farm
 1966

<u>Individual</u> Crops	<u>Acres</u> Seeded	<u>Grouped</u> Crops	<u>Acres</u> Seeded	<u>Percent</u> Total Seeded
Wheat	311.8	Wheat	324.8	69.0
Durum	13.0			
Oats	16.3	Coarse Grains	62.6	13.3
Barley	46.3			
Flax	33.3	Oilseeds	35.0	7.4
Rapeseed	1.7			
Forage	29.9	Forage	29.9	6.3
Rye	14.3	Other	18.3	3.9
Other	4.0			

Source: C.W.B. 1966-67 Permit Data.

Canadian Wheat Board permits showed 69 per cent of seeded acreage in 1966 in wheat, 13 per cent in coarse grains, 7 per cent in oil-seeds, 6 per cent in forage crops and 4 per cent in other crops. (See Table 2, page 10)

Hypotheses

1) The first hypothesis that was considered for testing was that costs of production vary by farm size. To test this hypothesis the County farm population was divided into three groups and each was sampled. As the average size of farms in 1966 was approximately one and one half sections it was decided that a size breakdown averaging around this figure would be appropriate. In the absence of recent census data on the farm population the following size breakdown was used:

Small farm - up to 640 acres
Medium farm - 641 - 1280 acres
Large farm - more than 1280 acres

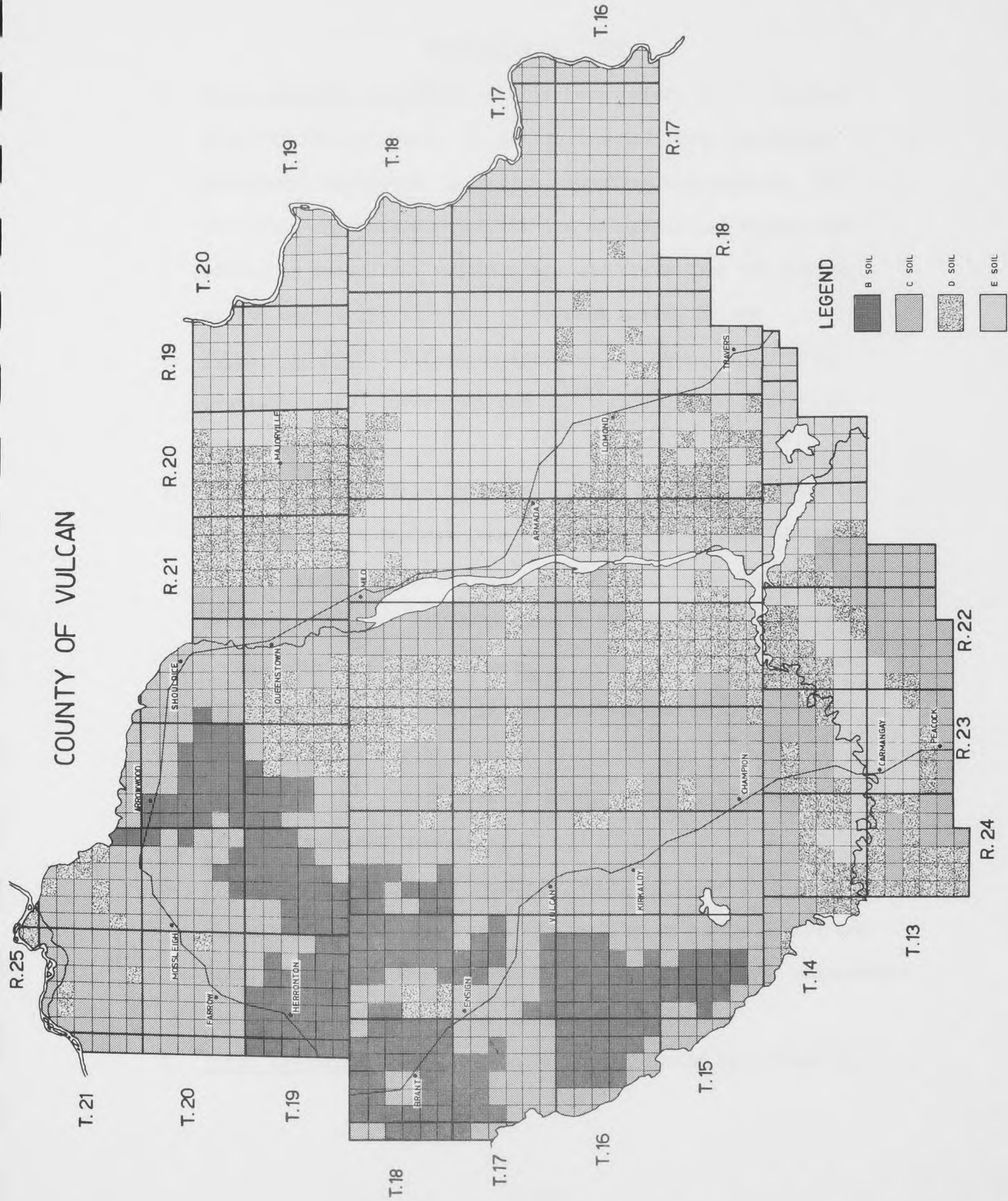
2) The second hypothesis tested was that the cost of production of wheat varies by type of soil. To shed light on this assumption the County farm population was divided into three groups according to the predominant class of soil on the farm. Vulcan County lies in the Dark Brown Soil Zone. Each quarter section was classified under soil categories A, B, C, D, E, according to the Alberta Crop Insurance Soil Classification criteria. (See map page 13) Because there was no A class soils in Vulcan

County and because E class soils are basically grazing land the sample farms were divided into three groups by predominant soil types. The long term average yield of wheat on summerfallow for the three soils are as follows:

B soils - 25.0 bushels
C soils - 22.0 bushels
D soils - 19.5 bushels

In these calculations the yield on stubble crop was estimated at 60 per cent of summerfallow yield which led to a weighted average for total crop acreage of 22.8, 20.0 and 18.0 for B, C, and D soils respectively. The estimated average yield for the period 1940-64 for wheat for all soils in the County is 20.3 bushels.

COUNTY OF VULCAN



DEFINITION OF TERMS

1. TOTAL OPERATOR INVENTORY - This term refers to all capital owned by the operator. It includes owned land, buildings, machinery, equipment, livestock, supplies and produce. Depreciable assets are valued at the undepreciated figure according to income tax calculations and the others are valued at the operator's estimate of current market prices.
2. TOTAL FARM COST - This term includes (1) operating, (2) depreciation, (3) investment and (4) farm operator labour and management costs.
3. OPERATING COST - This includes all normal operating costs or expenses and is derived from the income tax expense statement. It represents the income tax expense total minus interest paid minus capital cost allowance plus a six-month interest charge on the cash operating expenses.
4. DEPRECIATION COST - This is the capital cost allowance item from the income tax statement.
5. INVESTMENT COST - This cost is calculated at six per cent of total operator inventory.
6. OPERATOR AND FAMILY LABOUR AND MANAGEMENT COST - This cost was calculated at \$300 per month for legitimate family labour and \$400, \$500 and \$600 per month for operator labour and management for small, medium and large farms respectively.
7. TOTAL LIVESTOCK COST - This cost is calculated by estimating

the share of operating, depreciation, investment and operator labour cost that could be attributed to the livestock enterprise and adding to them a transfer cost equal to the value of grain and other feed produced on cultivated land which was taken out of inventory and fed to the livestock.

8. TOTAL CROP PRODUCTION COST - This cost is calculated by subtracting livestock operating, depreciation, investment and operator labour costs out of the respective farm costs which leaves a remainder to be charged against the cropping enterprise in each of the four cost categories.
9. TOTAL CROP PRODUCTION COST PER CULTIVATED ACRE - This is calculated by dividing the total crop production cost by the number of cultivated acres.
10. FARM WHEAT PRODUCTION POTENTIAL - This is obtained by arriving at the yield level of summerfallow and stubble acreage in wheat and estimating the total possible production for wheat if grown on the total crop acreage for that particular year.
11. PRODUCTIVITY LEVEL - This calculation provides an indication of the wheat production potential per cultivated acre.
12. COST LEVEL - This factor is given in terms of bushels per cultivated acre. It is calculated by dividing the crop production cost per cultivated acre by the average local price received by the farmers.
13. PRODUCTION COST PER BUSHEL OF WHEAT - This factor is an ind-

incation of the resultant interaction of farm costs and productivity levels. However it indicates the efficiency of wheat production only. Other crops and livestock production can affect the final net return figure. It is calculated by dividing the total crop production cost by the wheat production potential for the farm.

14. TOTAL LIVESTOCK RECEIPTS - This represents the sum of livestock cash receipts, change in livestock inventory and value of home use of livestock products.
15. NET LIVESTOCK RETURN - Total livestock receipts minus total livestock cost.
16. CASH OPERATING RECEIPTS - The sum of current year sales of grain, livestock and livestock products, dividends and bonuses, Wheat Board payments, rental share sold for landlord, custom work and miscellaneous items.
17. CASH OPERATING EXPENSES - These are expenses of the current year, including hired labour, taxes, livestock, insurance, buildings, crop and machinery costs, chemicals, rent to landlord and miscellaneous items.
18. CASH OPERATING INCOME - This is calculated by subtracting cash operating expenses from cash operating receipts and indicates the actual cash left in the hands of the operator for capital purchases and family living and other personal expenses.
19. TOTAL FARM RECEIPTS - Cash operating receipts plus sales of land and depreciable assets plus increase in inventory.

20. TOTAL FARM EXPENSES - Cash operating expenses plus interest on cash operating expenses plus value of unpaid family labour plus purchases of land and depreciable assets plus any decrease in inventory.
21. NET FARM INCOME - Total farm receipts minus total farm expenses. This income is what remains after cash operating and depreciation costs have been paid. It indicates a farmer's financial success or failure for the year and can be regarded as a residual return to the operator for his labour, management and investment inputs into the business. It is regarded by some as the most important income figure of a farm business summary.
22. RETURN TO OPERATOR'S CAPITAL - Net farm income minus operator's wage allowance. This represents the return to operator's owned investment after subtracting a wage for the operator from the net farm income.
23. OPERATING EXPENSE RATIO - The percentage of cash operating receipts that was used for cash operating expenses.
24. TOTAL EXPENSE RATIO - The percentage of total farm receipts that went into total farm expenses.
25. NET FARM INCOME AS A PERCENTAGE OF OWNED CAPITAL - This term relates net farm income to the total owned capital that the operator has invested in the business.
26. SUBSISTENCE COSTS - Total of operating and depreciation costs.
27. EFFICIENCY RETURN - Total of investment and farm operator labour and management costs.

RESULTS OF ANALYSIS

The results of the first year's analysis of the County of Vulcan Cost of Production Study should be regarded and used with some caution. Research based on a single year's data contain certain shortcomings. These however can be reduced as additional years' records are included. In addition this particular study contains new techniques of data collection and analysis that may require certain modifications as time passes.

Notwithstanding the obvious shortcomings that are found in such studies it does provide benchmarks for assessing the seriousness of the farm problem in the Vulcan area and at the same time provide the farmers of the County with useful standards of performance. Any farmer can look at his own results and the standards for the group with assurance that such comparison will provide him with a reliable and useful management tool. County averages however should not be regarded as the optimum level of achievement as all farmers must continually strive for lower costs and higher productivity in order to remain viable.

Four Basic Costs

In attempting to arrive at a measure of profitability of agriculture in the County of Vulcan the farm sample was studied from the point of view of the four basic costs outlined in the section on "Definition of Terms". These are: (1) operating,

(2) depreciation, (3) investment, and (4) farm operator labour and management costs. (See numbers 3, 4, 5 and 6, page 14)

The farmer must operate his business in such a way that all these costs are covered in the long run. However in the short run only the first two of the above costs actually have to be met and any claim to a return to operator's investment and labour and management can be postponed by the farmer for any particular year if he so desires.

Except in the prudent purchase of operating and capital items there is very little leaway available to the farmer with respect to operating and depreciation costs. Generally speaking the items in these categories must be paid for during the year of purchase at the retailers asking price and the farmer has little control over the cost of such inputs.

This means that to remain in the farming business a farmer each year must somehow arrange to pay these inflexible "subsistence costs". (See number 26, page 17) Any revenue remaining in the business after paying these subsistence costs goes toward reimbursing the farmer for his investment and labour and management. This remainder is referred to as "net income" or at times in this report as "efficiency return". (See numbers 21 and 27, page 17) If this return received by the farm manager is large enough to cover the opportunity cost of these two inputs then the farm can be considered to be a fully efficient productive

unit^{1/}.

As has been pointed out previously it has been assumed that the farmer's labour and management input costs are \$400., \$500. and \$600. per month for small, medium and large farms. When these costs are subtracted from "net income" a residual return to investment remains. It is referred to as "return to operator's capital". (See number 22, page 17) This may or may not be large enough to give the operator the going rate of return on his invested capital. This rate of return figure is used as a measure of relative efficiency.

Efficient Resource Use

If the farmer is able to pay operating costs and depreciation costs out of farm revenue he is at least operating on a subsistence level in the short run. If, however, he can also pay himself a full opportunity cost wage for labour and management service and still have enough left over for a 6 per cent return on investment he is using his resources efficiently enough to earn a return equal to that which they could earn in alternative uses.^{2/} In such a situation he would be using the resources at his disposal

^{1/} Opportunity cost is the most advantageous level of return that resources could receive in other uses.

^{2/} See assumption 1, page

efficiently. Resource use is said to be efficient if returns are as large as they would be in other competitive uses. However, if in his farming practices he is using resources that are not receiving a return equal to that which they could obtain in other uses they are not being used efficiently.

The two resources that are usually underpaid in such a situation are operator labour and management and operator investment. If the farm manager is satisfied to receive an economic return for the use of resources that is below what he could receive in other uses then he is deliberately subsidizing agricultural production by the amount the return is below normal return.

Land Utilization

Nearly 70 per cent of the seeded acreage in the County of Vulcan in 1966 was in wheat. The other 30 per cent was in coarse grains, oilseeds, forage, rye and other crops. (See Table 2, page 10; Table 3, page 22; Chart A, page 23 and for additional data see Appendix)

Farm Size and Numbers

There were 1,159 Canadian Wheat Board permits issued by October 14 in 1966 and according to Wheat Board data the average size of farm was 892 acres which was well above average for the province and Western Canada. The steady trends of the last few

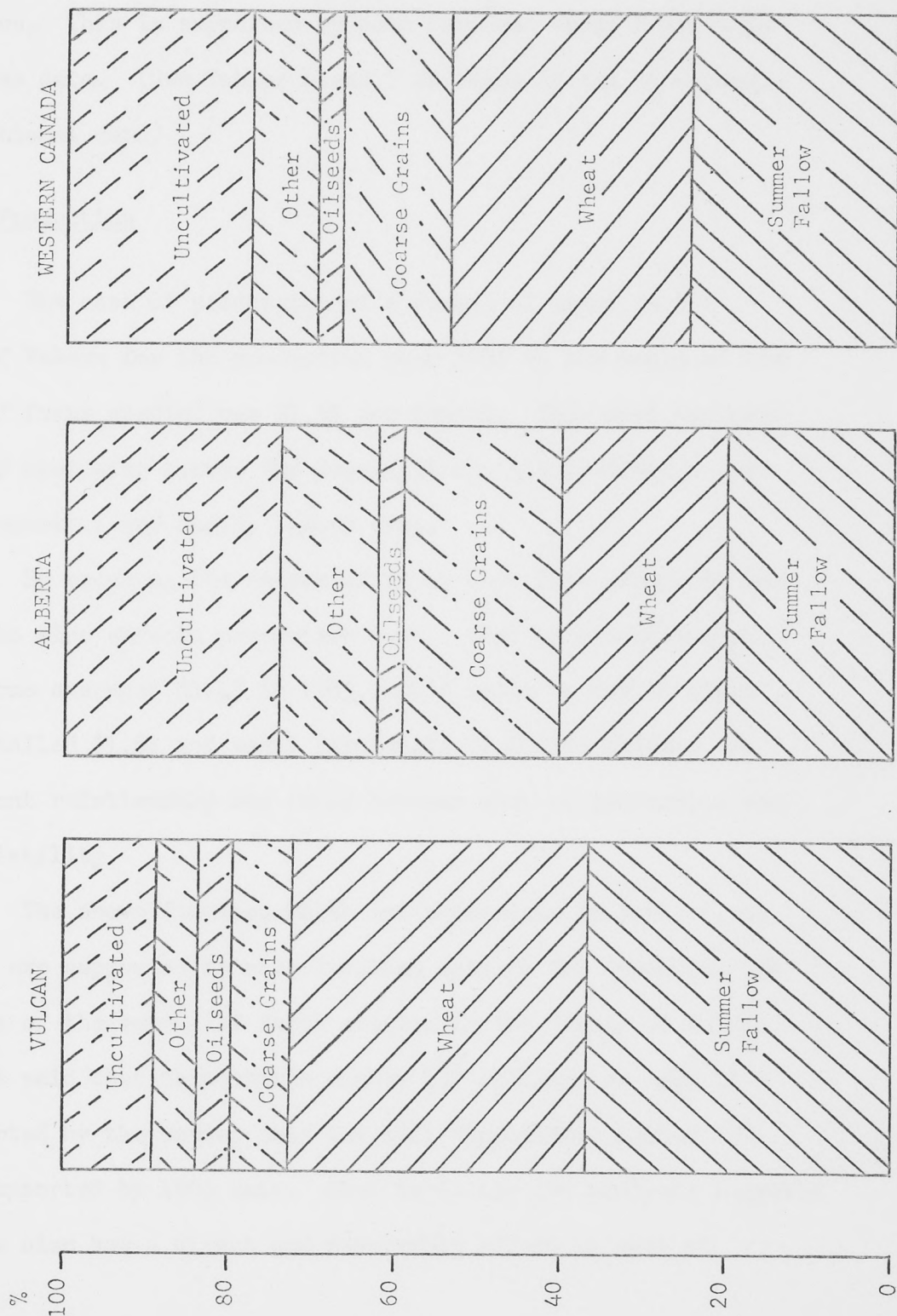
TABLE 3
COUNTY OF VULCAN, ALBERTA AND WESTERN CANADA
Land Utilization
1966

	Vulcan	Alberta	Western Canada
Number C.W.B. Permits Issued	1,159	60,884	184,429
Total Acres Recorded (thousands)	1,034	33,042	103,204
Average Size of Farm (acres)	892	543	560
Utilization of Farm Land (per cent of total)			
Summerfallow	37.1	20.3	25.1
Wheat - (inc. durum)	36.4	20.2	29.1
Coarse Grains	7.0	18.9	12.9
Oilseeds (rapeseed and flaxseed)	3.9	2.9	3.1
Other (inc. rye and forage crops)	5.4	12.0	8.0
Uncultivated	10.2	25.7	21.8

Source: C.W.B. - Summary of Seeded Acreages Reported on 1966-67
 Permits issued to October 14, 1966.

CHART A

COUNTY OF VULCAN, ALBERTA AND WESTERN CANADA Land Utilization Patterns 1966



Source: See Table 3.

decades with respect to farm size and numbers continue to maintain themselves. This is supported by both Canadian Wheat Board data and census data. (See Tables 4 and 5 on pages 25 and 26 Appendix for additional data)

Cost of Production

The cost of production of a bushel of wheat in the County of Vulcan for the production year 1965 on the basis of the sample of farms studied was \$1.57 per bushel. This cost was made up of 64¢ operating costs, 22¢ depreciation, 36¢ investment cost and 35¢ operator and family labour cost.

By breaking the sample of farms down into groups it was found that size affects production cost. Cost of production on large farms averaged \$1.47 in 1965, while costs on medium sized farms totalled \$1.61 and small farm costs \$1.90 per bushel. No significant relationship was found between cost of production and soil variability.

The above findings which are summarized in Table 6, on page 27, are supported by more detailed data in the Appendix. On the basis of the sample of farms studied in the County of Vulcan it can be said that "hypothesis number 1)" outlined on page 11 is supported by the survey data but that "hypothesis number 2)" is not supported by 1965 data. That is to say the analysis suggests that farm size has a direct and measurable effect on cost of

TABLE 4
COUNTY OF VULCAN
Farm Size and Numbers
1957-1967

	<u>Acreage</u>		<u>Farm Operators</u> ^{1/}	
	<u>Total</u> (million acres)	<u>Average</u> Size	<u>Total</u> Number	<u>Decrease from</u> <u>Previous Year</u>
1957-58	1.079	709	1,522	
1958-59	1.073	720	1,491	31
1959-60	1.070	767	1,395	96
1960-61	1.067	767	1,391	4
1961-62	1.075	783	1,374	17
1962-63	1.071	795	1,347	27
1963-64	1.082	831	1,303	44
1964-65	1.097	856	1,281	22
1965-66	1.085	870	1,247	34
1966-67	1.082	894	1,210	37

Source: Statistical Report of C.W.B. - based on Producers Delivery Permits.

^{1/} Farm Operators. Assumed to be equivalent to total number of permits issued by C.W.B.

TABLE 5CENSUS DIVISION NO. 5
Census Farms Classified by Size of Farm

Size of Farm	1961	1966	% Change
0 to 559 acres	1,656	1,282	- 22.6
560 to 1,119 acres	1,672	1,451	- 13.2
1,120 and over	1,005	1,127	+ 12.1
Total	4,333	3,860	- 10.9

Source: D.B.S.: 1966 Census Report.

TABLE 6

COUNTY OF VULCAN
Cost of Production of Wheat
By Farm Size and Soil Type
1965

		<u>Crop</u> <u>Operating</u> <u>Cost</u>	<u>Crop</u> <u>Depre-</u> <u>ciation</u> <u>Cost</u>	<u>Crop in-</u> <u>vestment</u> <u>Cost</u>	<u>Operator</u> <u>& Family</u> <u>Labour</u> <u>Cost</u>	<u>*Total</u> <u>Cropping</u> <u>Cost</u>
Farms		- dollars per bushel -				
Stratified by Size	Small	0.62	0.30	0.47	0.52	1.90
	Medium	0.64	0.22	0.38	0.40	1.63
	Large	0.65	0.22	0.32	0.29	1.47
Farms						
Stratified by Soil Type	"B"	0.59	0.21	0.37	0.33	1.50
	"C"	0.68	0.21	0.35	0.36	1.61
	"D"	0.60	0.25	0.35	0.35	1.55
All Farms		0.64	0.22	0.36	0.35	1.57

* Note: Total may not be exact by the sum of the parts because of rounding.

production of wheat in the County of Vulcan but productivity of soil does not have such an effect.

Description of Average Farmer

In 1965 the average farmer of the County (if indeed there is such a man) had approximately two sections of land, 1,187 acres to be exact, and he had an owned inventory of \$105,863. He had 1,014 acres cultivated and 557 acres in crop. His total farm costs of \$28,608 for the year were made up of \$12,051 operating expenses, \$3,752 in depreciation, \$6,352 in investment costs and \$6,453 in operator and family labour and management cost.

If livestock costs are stripped away, the average farmers' cropping costs were \$10.15 per cultivated acre for operating expenses, \$3.55 per cultivated acre for depreciation, \$5.65 per cultivated acre for investment and \$5.56 per cultivated acre for operator and family labour and management. This comes to a total of just under \$25 per cultivated acre which requires a good deal of production to cover when so many acres are left idle each year in summerfallow. Small farmers cropping practices cost over \$33 per cultivated acre.

In terms of productive efficiency the average County farmer produced nearly 30 bushels of wheat per acre on summerfallow in 1965. However in terms of production per cultivated acre this figure drops to about 16 bushels. In fact the average production

level of wheat in 1965 was such that its sale value hardly covered total cropping costs. This means that approximately 50 per cent of the farmers did not cover costs while the other 50 per cent managed to do so. The average production cost per bushel of wheat of \$1.57 is very close to what was received for the average grade of wheat produced in Vulcan County in 1965.

The average livestock enterprise in the County of Vulcan in 1966 engendered expenses of \$5,870 which was made up of \$2,662 operating expenses, \$154 depreciation, \$626 investment cost, \$747 operator and family labour and management cost and \$1,682 worth of feed transferred from the crop enterprise. Receipts averaged \$5,328 which gave a net return of minus \$543.

Conclusions Regarding Farm Income

On analyzing the income situation of the farm sample for 1965 it was found that average net farm income was \$11,501. This means that after looking to the necessary subsistence costs the average farmer had this net farm income left over to reimburse himself for investment and operator labour and management costs. After subtracting \$6,037 as an operator wage allowance the remaining \$5,464 provided a 5.2 per cent return to operator capital in 1965 which is slightly below the 6 per cent figure used as a norm.

The ratio of cash operating expenses to cash operating receipts was 52 per cent and the ratio of total farm expenses to

total farm receipts was 64 per cent. Comparative figures for Saskatchewan farms for the five year period 1960 - 1964 as reported in the "Saskatchewan Farm Business Summary" were 49 per cent and 66 per cent.

Net farm income was found to average 11 per cent of owned capital. Saskatchewan net farm income for the 1960 - 1964 period averaged 13 per cent of owned capital. (See Tables 11, 12 and 13 in Appendix)

IMPLICATIONS OF YIELD AND COST

There are two main factors which combine to determine the cost of production of a bushel of wheat. They are:

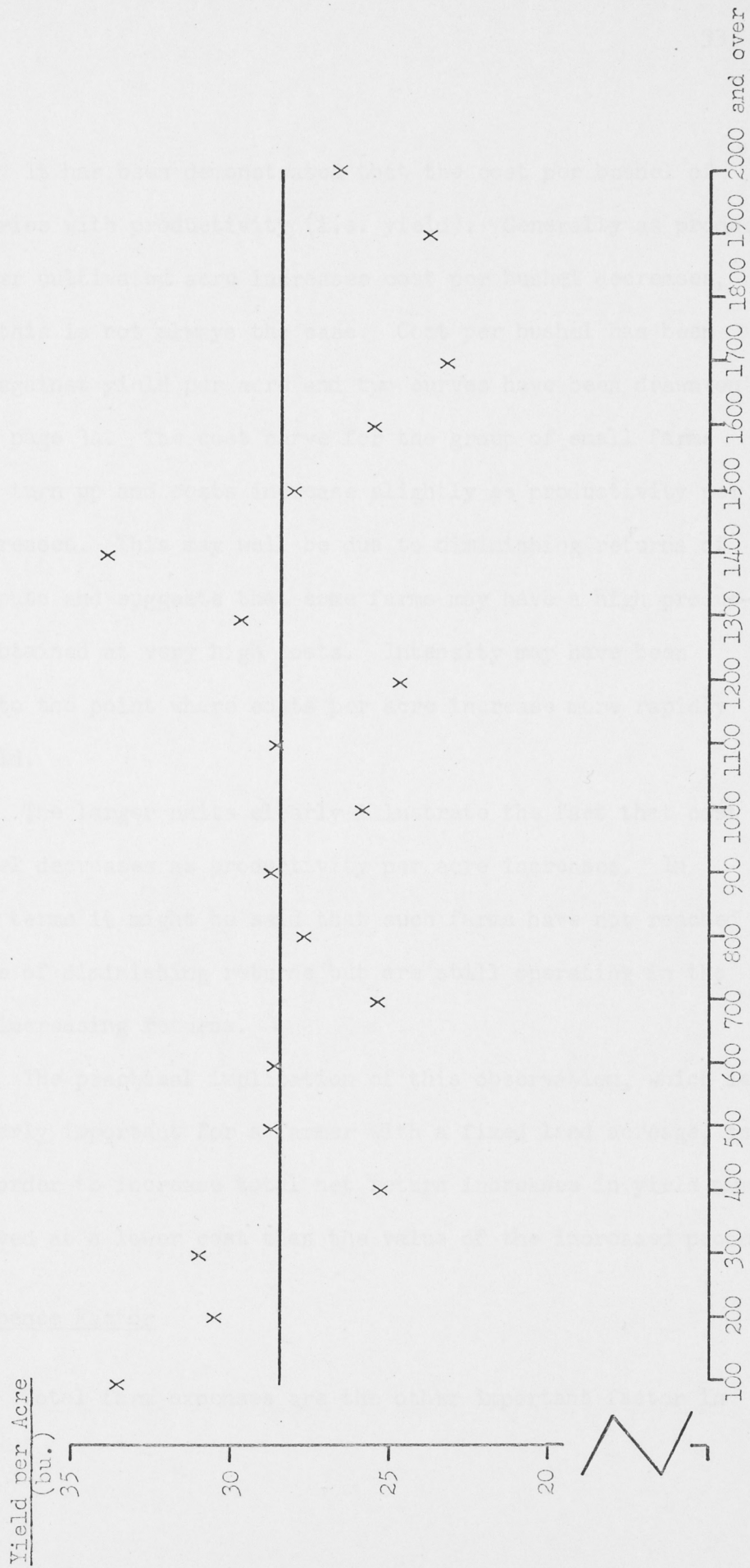
- (1) Productivity
- (2) Total Cost

If these two factors can be measured the cost per bushel can be determined by dividing the total cost of production by the bushels produced. This can be done for a region, a province, an individual farm, a single field or for just one acre. This particular analysis illustrates wheat productivity and wheat production cost on a per acre basis.

Productivity Factor

One of the first things examined was the relationship between productivity or yield and size of farm. An analysis of the sample shows no discernable upward or downward trend between productivity and farm size. (See Chart B, page 32) This suggests that size alone can be disregarded as a factor of productivity and so leads to the conclusion that production potential is uniform for all size groups. This is a generalization which may be made invalid due to other factors such as obvious differences in soils which show up in most areas and differences in managerial capacities that show up between farmers. Also some farm managers exploit their full production potential, whereas others do not.

CHART B
COUNTY OF VULCAN
Wheat Yield per Acre in Relation to Size of Farm
1965



Source: See Table 15.

Farm Size Grouping by Cultivated Acres

It has been demonstrated that the cost per bushel of wheat varies with productivity (i.e. yield). Generally as productivity per cultivated acre increases cost per bushel decreases, however this is not always the case. Cost per bushel has been plotted against yield per acre and two curves have been drawn on Chart C, page 34. The cost curve for the group of small farms tends to turn up and costs increase slightly as productivity per acre increases. This may well be due to diminishing returns of added inputs and suggests that some farms may have a high productivity obtained at very high costs. Intensity may have been carried to the point where costs per acre increase more rapidly than yield.

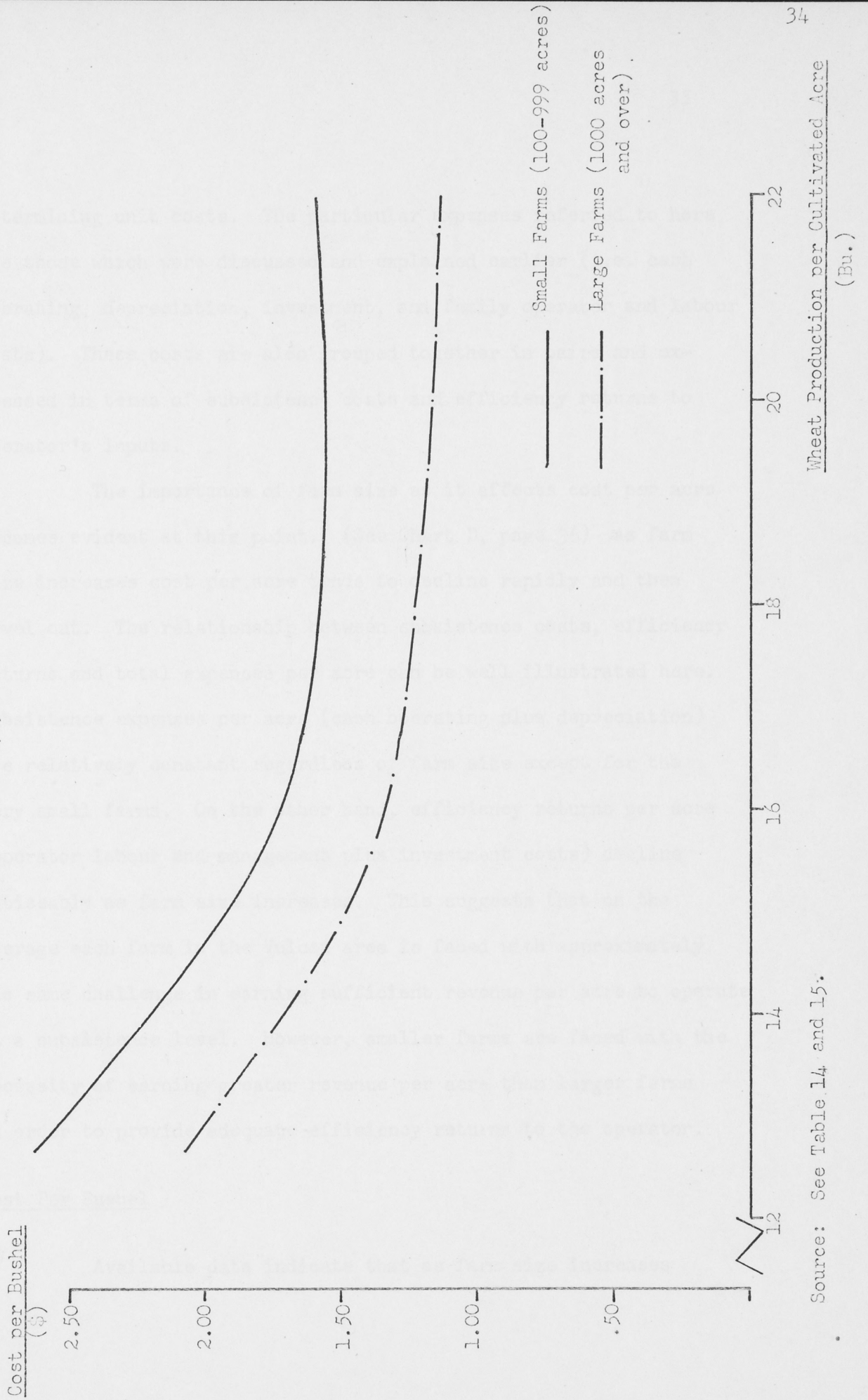
The larger units clearly illustrate the fact that cost per bushel decreases as productivity per acre increases. In economic terms it might be said that such farms have not reached the stage of diminishing returns but are still operating in the area of increasing returns.

The practical implication of this observation, which is particularly important for a farmer with a fixed land acreage, is that in order to increase total net return increases in yield must be achieved at a lower cost than the value of the increased product.

Total Expense Factor

Total farm expenses are the other important factor in

CHART C
COUNTY OF VULCAN
Cost of Wheat Production and Changing Productivity
1965



Source: See Table 14 and 15.

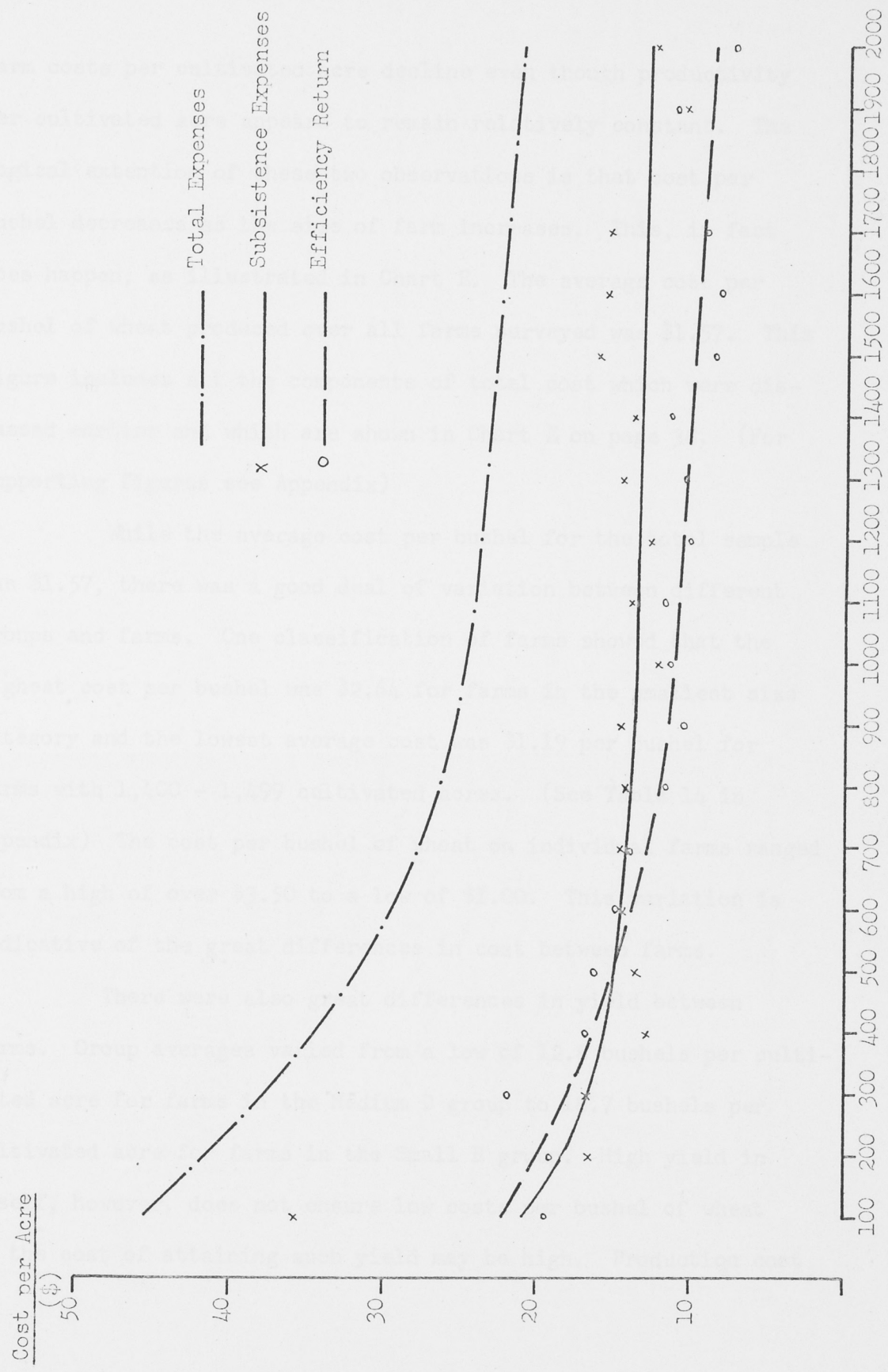
determining unit costs. The particular expenses referred to here are those which were discussed and explained earlier (i.e. cash operating, depreciation, investment, and family operator and labour costs). These costs are also grouped together in pairs and expressed in terms of subsistence costs and efficiency returns to operator's inputs.

The importance of farm size as it affects cost per acre becomes evident at this point. (See Chart D, page 36) As farm size increases cost per acre tends to decline rapidly and then level out. The relationship between subsistence costs, efficiency returns and total expenses per acre can be well illustrated here. Subsistence expenses per acre (cash operating plus depreciation) are relatively constant regardless of farm size except for the very small farms. On the other hand, efficiency returns per acre (operator labour and management plus investment costs) decline noticeably as farm size increases. This suggests that on the average each farm in the Vulcan area is faced with approximately the same challenge in earning sufficient revenue per acre to operate at a subsistence level. However, smaller farms are faced with the necessity of earning greater revenue per acre than larger farms in order to provide adequate efficiency returns to the operator.

Cost Per Bushel

Available data indicate that as farm size increases

CHART D
COUNTY OF VULCAN
Subsistence Expenses and Efficiency Return per Cultivated Acre
1965



Source: See Table 15.

Farm Size Grouping by Cultivated Acres

farm costs per cultivated acre decline even though productivity per cultivated acre appears to remain relatively constant. The logical extension of these two observations is that cost per bushel decreases as the size of farm increases. This, in fact does happen, as illustrated in Chart E. The average cost per bushel of wheat produced over all farms surveyed was \$1.57. This figure includes all the components of total cost which were discussed earlier and which are shown in Chart E on page 38. (For supporting figures see Appendix)

While the average cost per bushel for the total sample was \$1.57, there was a good deal of variation between different groups and farms. One classification of farms showed that the highest cost per bushel was \$2.64 for farms in the smallest size category and the lowest average cost was \$1.19 per bushel for farms with 1,400 - 1,499 cultivated acres. (See Table 14 in Appendix) The cost per bushel of wheat on individual farms ranged from a high of over \$3.50 to a low of \$1.00. This variation is indicative of the great differences in cost between farms.

There were also great differences in yield between farms. Group averages varied from a low of 12.8 bushels per cultivated acre for farms in the Medium D group to 18.7 bushels per cultivated acre for farms in the Small B group. High yield in itself, however, does not ensure low costs per bushel of wheat as the cost of attaining such yield may be high. Production cost

CHART E
COUNTY OF VULCAN
Production Costs per Bushel of Wheat by Size of Farm
1965



Source: See Table 14.

Farm Size Grouping by Cultivated Acres

per bushel for the low yielding Medium D group was \$1.84 per bushel while for the high yielding Small B group it was \$1.97.

At \$1.57 per bushel, the average cost of production is very close to the average price received. This is a normal situation because the cost of \$1.57 per bushel includes what might be described as fully competitive returns for all resources used by the operator. It is to be expected that cost and revenue per bushel should be similar because in our highly competitive industry total cost and total revenue tend to equate over a period of time. It is for this reason that those farmers who lead in adopting cost reducing and labour saving techniques receive the greatest benefit. Such operators reduce their costs before general use of such practices brings price adjustments to the new situation.

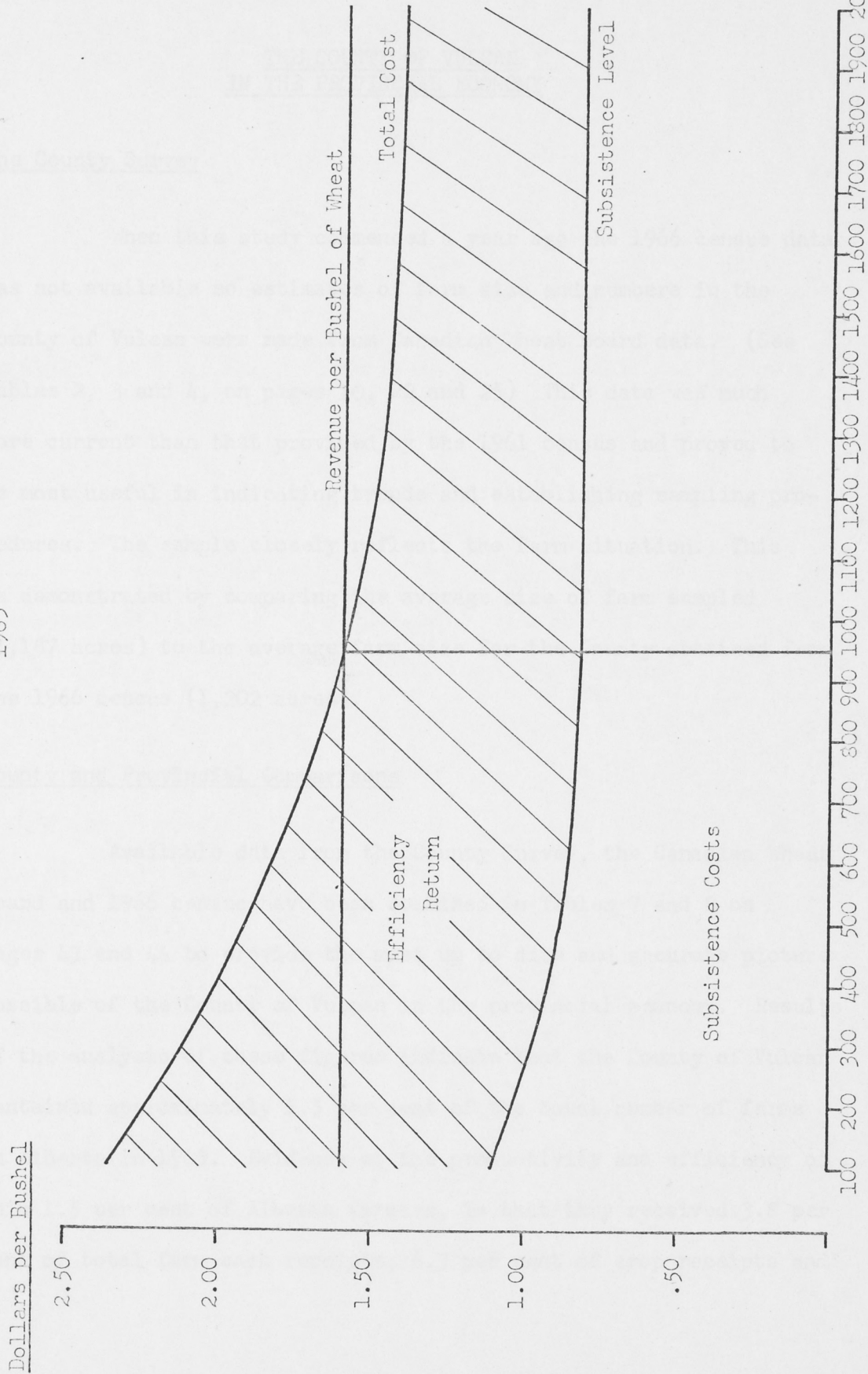
Efficient Production and Cost Per Bushel

In order to produce wheat efficiently the cost per bushel must be less than or equal to the return per bushel. For example, with an average return per bushel of \$1.60, a farmer must keep his total cost per bushel at \$1.60 or lower in order for him to be an efficient producer. According to the data supplied by the farmers of the County of Vulcan for 1965, farms with an average of over 950 cultivated acres had an average cost per bushel of less than \$1.60 and consequently on the average could be classed as efficient wheat producers. Smaller farms had an average cost per bushel of

over \$1.60. (See Chart F, page 41) All farms in the sample had revenue above the subsistence cost level with the exception of a few very small farms.

The above data suggests that the average farm of over 950 cultivated acres is an efficient wheat producing unit and that the average farm under 950 cultivated acres must be particularly concerned regarding costs and returns to survive. In no way does it imply that all farms below this level are inefficient or that all farms above it are efficient producers of wheat. In the final analysis every farmer to a certain extent at least determines his own cost level by his decisions as a manager and he bears the responsibility for efficient use of resources. The point made is that there are obvious economies of scale that strengthen the hand of the operator who has larger than average quantities of resources at his disposal. This fact in itself, however, does not by any means assure him of success in farming.

CHART F
COUNTY OF VULCAN
Cost and Revenue per Bushel of Wheat by Size of Farm
1965



Source: See Table 14.

Farm Size Grouping by Cultivated Acres

THE COUNTY OF VULCAN
IN THE PROVINCIAL ECONOMY

The County Survey

When this study commenced a year ago the 1966 census data was not available so estimates of farm size and numbers in the County of Vulcan were made from Canadian Wheat Board data. (See Tables 2, 3 and 4, on pages 10, 22 and 25) This data was much more current than that provided by the 1961 census and proved to be most useful in indicating trends and establishing sampling procedures. The sample closely reflects the farm situation. This is demonstrated by comparing the average size of farm sampled (1,187 acres) to the average farm size for the County obtained from the 1966 census (1,202 acres).

County and Provincial Comparisons

Available data from the County Survey, the Canadian Wheat Board and 1966 census have been combined in Tables 7 and 8 on pages 43 and 44 to provide the most up to date and accurate picture possible of the County of Vulcan in the provincial economy. Results of the analysis of these figures indicate that the County of Vulcan contained approximately 1.5 per cent of the total number of farms in Alberta in 1965. Evidence of the productivity and efficiency of this 1.5 per cent of Alberta farmers, is that they received 3.8 per cent of total farm cash receipts, 6.3 per cent of crop receipts and

TABLE 7

COUNTY OF VULCAN AND THE PROVINCE OF ALBERTA
Comparison of Selected Agricultural Statistics
- 1965 -

Item	County of Vulcan	Province of Alberta	% Vulcan of Alberta
Number of Farms	1,078	70,171	1.5%
Total Farm Acreage	1,295,322	48,632,031	2.7%
Total Farm Cash Receipts	\$24,520,000	\$653,364,000	3.8%
Livestock Receipts	\$ 5,100,000	\$338,097,000	1.5%
Crop Receipts	\$19,420,000	\$310,600,000	6.3%
Wheat Receipts	\$14,915,000	\$200,415,000	7.4%
Coarse Grain Receipts	\$ 2,680,000	\$ 56,730,000	4.7%
Oilseeds Receipts	\$ 1,223,000	\$ 21,584,000	5.7%
Other Crop Receipts	\$ 602,000	\$ 31,871,000	1.9%
Other Receipts	--	\$ 4,667,000	-

Sources: Survey Data, Wheat Board Data, and Dominion Bureau of Statistics

TABLE 8

COUNTY OF VULCAN AND THE PROVINCE OF ALBERTA
Comparison of Average Farm Size and Production
 - 1965 -

	COUNTY OF VULCAN			PROVINCE OF ALBERTA		
	Average Per Farm	% of Total Farm Cash Receipts (%)	% of Total Total Crop Receipts (%)	Average per Farm Receipts	% of Total Farm Cash Receipts (%)	% of Total Total Crop Receipts (%)
Total Farm Acreage	1,202	N.A.	N.A.	693	N.A.	N.A.
Total Farm Cash Receipts	\$22,746	100.0	N.A.	\$9,311	100.0	N.A.
Livestock Receipts	4,731	20.8	26.3	4,818	51.7	108.8%
Crop Receipts	18,015	79.2	100.0	4,426	47.5	100.0
Wheat Receipts	13,836	60.8	76.8	2,856	30.7	64.5
Coarse Grain Receipts	2,486	10.9	13.8	808	8.7	18.3
Oilseeds Receipts	1,135	5.0	6.3	308	3.3	7.0
Other Crop Receipts	556	2.4	3.1	454	4.9	10.3
Other Receipts	-	-	-	67	0.7	N.A.

N.A. indicates that proportion does not apply to this category.

Sources: Survey Data, Wheat Board Data, and Dominion Bureau of Statistics.

an astounding 7.4 per cent of wheat receipts in the province.

Total farm cash receipts in the County of Vulcan in 1965 averaged \$22,746 per farm. The average for the province was \$9,311. While livestock receipts per farm were very close to the provincial average, crop receipts were \$18,015 compared to a provincial average of \$4,426. Wheat receipts per farm of \$13,836 were nearly five times the provincial average. In the County of Vulcan wheat receipts composed 60.8 per cent of total farm cash receipts as compared to a provincial average of 30.7 per cent.

The comparisons made above emphasize dependence of the County of Vulcan on crop receipts and particularly on returns from wheat. It is most crucial that farmers of this area maintain productivity and costs of production at levels which will assure continued competitive advantage in the production of wheat.

It would seem from the evidence gathered in this first year's survey that the farmers of the County of Vulcan have tended to adjust their business operations to changing conditions at least as well as most other areas in Western Canada. The level of productivity is comparatively high. However the data shows that even in the best farming areas there can be inefficiencies that act as a drag on the local economy. This means that a portion of the resources of the area are producing below their maximum potential, and suggests that the business community of the County as a whole is vitally interested in helping the greatest possible

number of farmers increase their productivity. The fact that this situation exists in relatively efficient farming areas such as the County of Vulcan underlines the magnitude of the adjustments that must be made to reduce the drag which inefficiency imposes on the agricultural industry of the West and Canada as a whole.

TABLE 9

COUNTY OF VULCAN
Land Utilization by Delivery Point in Acres
1966

Delivery Point	No. of Permits	Average Acres per Permit					Uncultivated	Average Total Acres per Permit
		Summer-fallow	Wheat	Course Grain	Oil-seed	Other		
Armada	41	292	290	29	16	19	108	754
Arrowwood	75	344	344	99	13	42	68	910
Brant	42	366	346	124	34	63	50	983
Carmangay	82	339	298	48	17	133	108	943
Champion	135	399	375	48	56	41	101	1,020
Ensign	44	342	332	80	43	48	81	926
Farrow	15	213	185	148	21	54	128	749
Herronton	42	292	274	111	78	56	78	889
Kirkcaldy	47	282	284	55	52	37	78	788
Lomond	123	321	361	31	25	45	181	964
Milo	90	321	306	56	36	30	85	834
Mossleigh	54	264	292	68	17	27	69	737
Peacock	35	293	311	60	38	76	34	812
Queenstown	45	416	395	70	46	54	102	1,083
Shouldice	19	576	535	78	27	52	31	1,299
Traverse	48	239	245	40	15	57	109	705
Vulcan	222	318	309	65	39	33	60	824
County Total	1,159	331	325	63	35	48	91	893

Source: C.W.B. Summary of Seeded Acreage. Reported on 1966-67 Permits Issued to October 14, 1966.

TABLE 10
 COUNTY OF VULCAN
 Proportional Land Utilization by Delivery Point
 1966

Delivery Point	No. of Permits	Per cent of Total Acres					Uncultivated	Average Total Acres per Permit
		Summer-fallow	Wheat	Coarse Grain	Oil-seeds	Other		
Armada	41	38.7	38.5	3.8	2.1	2.5	14.4	754
Arrowwood	75	37.8	37.8	10.9	1.4	4.6	7.5	910
Brant	42	37.2	35.2	12.6	3.5	6.4	5.1	983
Carmangay	82	35.9	31.6	5.1	1.8	14.1	11.5	943
Champion	135	39.1	36.8	4.7	5.5	4.0	9.9	1,020
Ensign	44	36.9	35.9	8.6	4.6	5.2	8.7	926
Farrow	15	28.4	24.7	19.8	2.8	7.2	17.1	749
Herronton	42	32.8	30.8	12.5	8.8	6.3	8.8	889
Kirkcaldy	47	35.8	36.0	7.0	6.6	4.7	9.9	788
Lomond	123	33.3	37.4	3.2	2.6	4.7	18.8	964
Milo	90	38.5	36.7	6.7	4.3	3.6	10.2	834
Mossleigh	54	35.8	39.6	9.2	2.3	3.7	9.4	737
Peacock	35	36.1	38.3	7.4	4.7	9.3	4.2	812
Queenstown	45	38.4	36.5	6.5	4.2	5.0	9.4	1,083
Shouldice	19	44.3	41.2	6.0	2.1	4.0	2.4	1,299
Traverse	48	33.9	34.7	5.7	2.1	8.1	15.5	705
Vulcan	222	38.6	37.5	7.9	4.7	4.0	7.3	824
Total	1,159	37.1	36.4	7.0	3.9	5.4	10.2	893

Source: See Table 9.

TABLE 11

COUNTY OF VULCAN
Average Results of All Sample Farms by Size and Predominant Soil Category

	Large Farms			Medium Farms			Small Farms			All Farms
	LB	LC	LD	MB	MC	MD	SB	SC		
I <u>FARM SIZE</u>										
Operator Inventory	152,269	137,484	154,591	100,249	97,126	66,849	98,305	51,869	105,863	
Farm Acres	1,600	1,932	1,862	1,039	934	945	540	458	1,187	
Cultivated Acres	1,460	1,624	1,467	957	851	792	470	406	1,014	
Crop Acres	740	854	810	498	487	484	287	221	557	
Months Man Labour	20.8	19.6	20.7	14.8	14.0	18.1	11.56	12.2	16.3	
II <u>FARM COSTS</u>										
Operating Expenses	18,541	19,864	13,548	10,603	11,207	9,914	12,263	4,474	12,051	
Depreciation Cost	3,521	5,483	5,863	3,288	2,918	3,164	3,743	1,761	3,752	
Investment Cost	9,136	8,299	9,275	6,015	5,827	4,011	5,899	3,112	6,352	
Operator & Family Labour Cost	9,300	7,450	8,030	5,993	6,111	5,793	4,600	4,885	6,453	
Total Farm Cost	40,499	41,102	36,717	25,901	26,063	22,883	26,506	14,232	28,608	
III <u>CROP ENTERPRISE</u>										
Cost of Production Calculations										
Operating Expenses/C.A.	10.31	11.36	9.21	10.09	10.00	8.86	10.42	10.82	10.15	
Depreciation/C.A.	2.31	3.24	3.92	3.32	3.24	3.66	7.69	4.15	3.55	
Investment Cost/C.A.	5.56	4.64	5.55	5.86	6.27	4.41	11.08	7.01	5.65	
Operator Labour Cost/C.A.	5.57	4.06	4.90	5.35	6.35	6.70	7.75	9.63	5.56	
Total Cost/C.A.	23.75	23.30	23.57	24.62	25.86	23.63	36.94	31.62	24.90	
Efficiency Factors										
Cult. Acres/Mo. Man Labour	86.2	98.1	82.6	80.4	67.6	66.0	56.1	38.59	74.7	
Wheat Yield (Sm.)	35	31	30	33	27.3	20.1	33	32	29.7	
Productivity Level Bu./C.A.	17.1	15.7	15.9	17.1	15.4	12.8	18.7	16.9	15.9	
Cost Level Bu./C.A.	14.8	14.6	14.7	15.4	16.2	14.8	23.1	19.8	15.6	
Production Cost/Bu. of Wheat	1.39	1.48	1.48	1.44	1.67	1.84	1.97	1.87	1.57	

TABLE 11 - continued

	Large Farms			Medium Farms			Small Farms		All Farms
	LB	LC	LD	MB	MC	MD	SB	SC	
IV LIVESTOCK ENTERPRISE									
Livestock Operating Expenses	4,626	2,869	1,372	1,603	3,433	3,856	7,732	458	2,662
Livestock Depreciation Cost	150	233	118	110	160	268	131	72	154
Livestock Investment Cost	1,023	758	1,128	405	486	516	693	263	626
Livestock Operator Labour Cost	1,166	852	843	872	703	486	956	496	747
Livestock Transfer Cost	2,430	3,072	2,136	1,343	1,143	1,357	3,076	419	1,682
Total Livestock Cost	9,396	7,784	5,603	4,332	5,925	6,482	12,589	1,708	5,870
Livestock Cash Receipts	11,199	6,025	2,975	3,957	46,020	5,812	11,835	1,004	4,663
Livestock Inventory Change	-1,526	751	1,869	244	137	-559	1,042	164	456
Value Home Use Livestock Prod.	78	166	331	236	202	266	212	113	209
Total Livestock Receipts	9,751	6,941	5,175	4,437	4,941	5,518	13,064	1,281	5,328
Net Livestock Return	355	-843	-427	106	-984	-964	475	-427	-543
V SUMMARY OF FARM INCOME									
Net Farm Income Calculations									
Cash Operating Receipts	32,347	34,611	29,025	20,965	20,518	15,882	21,302	9,000	22,457
Cash Operating Expenses	18,001	19,285	13,153	10,295	10,890	9,626	11,906	4,342	11,703
Cash Operating Income	14,345	15,326	15,872	10,671	9,628	6,256	9,396	4,657	10,754
Total Farm Receipts	52,141	52,389	45,754	28,310	25,091	20,252	26,325	13,292	31,919
Total Farm Expenses	35,167	34,704	26,476	16,873	16,177	14,941	19,580	8,434	20,418
Net Farm Income	16,974	17,685	19,279	11,437	8,914	5,112	6,744	4,858	11,501
Return to Operator's Investment									
Net Farm Income	16,974	17,685	19,279	11,437	8,914	5,112	6,744	4,858	11,501
Operator's Wage Allowance	7,200	7,150	7,384	5,750	5,947	5,243	4,600	4,378	6,037
Return to Operator's Inventory	9,774	10,535	11,894	5,687	2,967	-52	2,144	480	5,464
% Return to Operator Capital	6.4%	7.6%	7.7%	5.7%	3.1%	-0.1%	2.2%	0.9%	5.2%
General Efficiency Ratios									
Operating Expense Ratio	55.6%	55.7%	45.3%	49.1%	53.1%	60.6%	55.9%	48.2%	52.1%
Total Expense Ratio	66.2%	66.2%	57.9%	59.6%	64.5%	73.8%	74.4%	63.5%	64.0%
Net Farm Income as % Owned Cap.	11.1%	12.9%	12.5%	11.4%	9.2%	7.6%	6.9%	9.4%	10.9%

COUNTY OF VULCAN
Average Results of All Sample Farms by Soil Groups

	"B" Soil Farms	"C" Soil Farms	"D" Soil Farms	All Farms
I <u>FARM SIZE</u>				
Operator Inventory	110,135	95,991	123,881	105,863
Farm Acres	1,018	1,080	1,541	1,187
Cultivated Acres	928	943	1,231	1,014
Crop Acres	490	515	696	557
Months Man Labour	15.2	15.1	19.8	16.3
II <u>FARM COSTS</u>				
Operating Expenses	12,634	11,744	12,276	12,051
Depreciation Cost	3,456	3,313	4,919	3,752
Investment Cost	6,608	5,759	7,433	6,352
Operator and Family Labour Cost	6,283	6,142	7,248	6,453
Total Farm Cost	28,982	26,958	31,875	28,608
III <u>CROP ENTERPRISE</u>				
<u>Cost of Production Calculations</u>				
Operating Expenses/C.A.	10.21	10.75	9.13	10.15
Depreciation/C.A.	3.59	3.35	3.86	3.55
Investment Cost/C.A.	6.47	5.58	5.30	5.65
Operator Labour Cost/C.A.	5.74	5.65	5.30	5.56
Total Cropping Cost/C.A.	26.01	25.33	23.59	24.90
<u>Efficiency Factors</u>				
Cult. Acres Farmed/Mo. Man Labour	77.5	71.9	78.2	74.7
Wheat Yield (Sm.)	34.1	29.6	26.6	29.7
Productivity Level Bu./C.A.	17.3	15.7	15.2	15.9
Cost Level Bu./C.A.	16.3	15.8	14.7	15.6
Production Cost/Bu. of Wheat	1.50	1.61	1.55	1.57
IV <u>LIVESTOCK ENTERPRISE</u>				
Operating Expenses	3,842	2,445	2,241	2,662
Depreciation Cost	124	156	171	154
Investment Cost	605	500	914	626
Operator Labour Cost	953	687	721	747
Transfer Cost	2,022	1,479	1,863	1,682
Total Livestock Cost	7,547	5,267	5,910	5,870
Cash Receipts	7,506	3,995	3,968	4,663
Change in Inventory	103	316	1,019	456
Value of Home Use	198	167	308	209
Total Livestock Receipts	7,807	4,478	5,296	5,328
Net Livestock Return	261	-789	-615	-543

TABLE 12 - continued

	"B" Soil Farms	"C" Soil Farms	"D" Soil Farms	All Farms
<u>V SUMMARY OF FARM INCOME</u>				
<u>Net Farm Income Calculations</u>				
Cash Operating Receipts	23,332	21,237	24,425	22,457
Cash Operating Expenses	12,266	11,406	11,919	11,703
Cash Operating Income	<u>11,066</u>	<u>9,831</u>	<u>12,506</u>	<u>10,754</u>
 Total Farm Receipts	 32,547	 29,416	 36,829	 31,919
Total Farm Expenses	<u>21,254</u>	<u>19,186</u>	<u>22,439</u>	<u>20,418</u>
Net Farm Income	<u>11,293</u>	<u>10,230</u>	<u>14,390</u>	<u>11,501</u>
 <u>Return to Operator's Investment</u>				
Net Farm Income	11,293	10,230	14,390	11,501
Operator's Wage Allowance	<u>5,733</u>	<u>5,845</u>	<u>6,678</u>	<u>6,037</u>
Return to Operator's Inventory	<u>5,560</u>	<u>4,385</u>	<u>7,713</u>	<u>5,464</u>
% Return to Operator Capital	5.0%	4.6%	6.2%	5.2%
 <u>General Efficiency Ratios</u>				
Operating Expense Ratio	52.6%	53.7%	48.7%	52.1%
Total Expense Ratio	65.3%	65.2%	60.9%	64.0%
Net Farm Income as % Owned Cap.	10.3%	10.7%	11.6%	10.9%

TABLE 13

COUNTY OF VULCAN

Average Results of All Sample Farms by Size Groups

	Large Farms	Medium Farms	Small Farms	All Farms
I <u>FARM SIZE</u>				
Operator Inventory	147,368	91,627	63,478	105,863
Farm Acres	1,864	961	479	1,187
Cultivated Acres	1,534	864	422	1,014
Crop Acres	822	489	238	557
Months Man Labour	202	15.1	12.0	16.3
II <u>FARM COSTS</u>				
Operating Expenses	16,790	10,799	6,422	12,051
Depreciation Cost	5,452	3,056	2,257	3,752
Investment Cost	8,842	5,498	3,809	6,352
Operator and Family Labour Cost	7,918	6,018	4,814	6,453
Total Farm Cost	39,002	25,370	17,301	28,608
III <u>CROP ENTERPRISE</u>				
<u>Cost of Production Calculations</u>				
Operating Expenses/C.A.	10.30	9.81	10.71	10.15
Depreciation/C.A.	3.44	3.34	5.14	3.55
Investment Cost/C.A.	5.14	5.81	8.14	5.65
Operator Labour Cost/C.A.	4.59	6.16	9.11	5.56
Total Cropping Cost/C.A.	23.47	25.12	33.10	24.90
<u>Efficiency Factors</u>				
Cult. Acres Farmed/Mo. Man Labour	89.4	70.2	42.2	74.7
Wheat Yield (Sm.)	31.1	27.4	32.3	29.7
Productivity Level Bu./C.A.	15.9	15.4	17.4	15.9
Cost Level Bu./C.A.	14.7	15.7	20.7	15.6
Production Cost/Bu. of Wheat	1.47	1.63	1.90	1.57
IV <u>LIVESTOCK ENTERPRISE</u>				
Operating Expenses	2,362	3,089	2,277	2,662
Depreciation Cost	171	171	87	154
Investment Cost	959	473	370	626
Operator Labour Cost	884	698	611	747
Transfer Cost	2,569	1,234	1,083	1,682
Total Livestock Cost	6,944	5,665	4,429	5,870
Cash Receipts	5,163	4,699	3,711	4,663
Change in Inventory	1,026	19	384	456
Value of Home Use	233	223	138	209
Total Livestock Receipts	6,423	4,941	4,233	5,328
Net Livestock Return	-521	-724	-195	-543

TABLE 13 -- continued

	Large Farms	Medium Farms	Small Farms	All Farms
<hr/>				
V <u>SUMMARY OF FARM INCOME</u>				
<u>Net Farm Income Calculations</u>				
Cash Operating Receipts	31,775	19,669	12,075	22,457
Cash Operating Expenses	<u>16,301</u>	<u>10,490</u>	<u>6,233</u>	<u>11,703</u>
Cash Operating Income	15,475	9,179	5,842	10,754
 Total Farm Receipts	 49,282	 24,852	 16,550	 31,919
Total Farm Expenses	<u>30,933</u>	<u>16,086</u>	<u>11,220</u>	<u>20,418</u>
Net Farm Income	18,349	8,766	5,330	11,501
 <u>Return to Operator's Investment</u>				
Net Farm Income	18,349	8,766	5,330	11,501
Operator's Wage Allowance	<u>7,264</u>	<u>5,781</u>	<u>4,433</u>	<u>6,037</u>
Return to Operator's Inventory	11,085	2,985	896	5,464
% Return to Operator Capital	7.5%	3.3%	1.4%	5.2%
 <u>General Efficiency Ratios</u>				
Operating Expense Ratio	51.3%	53.3%	51.6%	52.1%
Total Expense Ratio	62.8%	64.7%	67.8%	64.0%
Net Farm Income as % Owned Cap.	12.5%	9.6%	8.4%	10.9%

TABLE 14

COUNTY OF VULCAN

Expenses per Bushel in Relation to Farm Size

- 1965 -

FARM SIZE	EXPENSES PER BUSHEL				EVALUATION	
	Operating	Depreciation	Investment	Operator & family labor	Total	Subsistence Efficiency Expense Return
Cultivated Acres	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
100-199	1.07	0.63	0.52	0.42	2.64	1.70
200-299	0.65	0.22	0.32	0.72	1.92	.87
300-399	0.71	0.16	0.45	0.70	2.03	.87
400-499	0.64	0.25	0.42	0.75	2.07	.89
500-599	0.48	0.30	0.52	0.45	1.75	.78
600-699	0.56	0.28	0.41	0.44	1.69	.84
700-799	0.74	0.27	0.47	0.52	2.00	1.01
800-899	0.67	0.21	0.35	0.39	1.62	.88
900-999	0.66	0.20	0.26	0.36	1.48	.86
1000-1099	0.58	0.25	0.45	0.32	1.59	.83
1100-1199	0.61	0.21	0.34	0.33	1.49	.82
1200-1299	0.70	0.24	0.35	0.39	1.67	.94
1300-1399	0.69	0.13	0.25	0.32	1.39	.82
1400-1499	0.48	0.17	0.32	0.22	1.19	.65
1500-1599	0.79	0.19	0.25	0.25	1.48	.98
1600-1699	0.88	0.22	0.25	0.31	1.66	1.10
1700-1799	0.82	0.39	0.39	0.33	1.92	1.21
1800-1899	-	-	-	-	-	-
1900-1999	0.57	0.22	0.49	0.35	1.63	.79
2000 & over	0.63	0.18	0.28	0.19	1.28	.81
Average	0.64	0.22	0.36	0.35	1.57	.86

TABLE 15

COUNTY OF VULCAN

Productivity and Expenses per Acre in Relation to Farm Size

- 1965 -

FARM SIZE	EXPENSES PER ACRE				EVALUATION			
	Operating	Depre- ciation	Invest- ment	Operator & Family labor	Total	Subsistence Expense	Efficiency Return	Wheat prod. per culti- vated Acre
Cultivated Acres	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(bu.)
100-199	22.30	13.18	10.92	8.73	55.12	35.48	19.65	20.9
200-299	12.14	4.15	5.95	13.43	35.67	16.29	19.38	18.6
300-399	13.45	3.06	8.59	13.31	38.41	16.51	21.90	18.9
400-499	9.23	3.66	6.06	10.83	29.77	12.89	16.89	14.4
500-599	8.17	5.13	8.99	7.80	30.08	13.30	16.79	17.1
600-699	9.50	4.78	7.02	7.46	28.77	14.28	14.48	17.0
700-799	10.69	3.88	6.75	7.43	28.76	14.57	14.18	14.4
800-899	10.89	3.46	5.60	6.22	26.17	14.35	11.82	16.2
900-999	11.29	3.40	4.50	6.08	25.27	14.69	10.58	17.1
1000-1099	8.48	3.66	6.64	4.68	23.46	12.14	11.32	14.7
1100-1199	10.38	3.55	5.79	5.59	25.31	13.93	11.38	16.9
1200-1299	9.51	3.26	4.76	5.30	22.83	12.77	10.06	13.7
1300-1399	12.22	2.36	4.39	5.77	24.73	14.58	10.16	17.8
1400-1499	10.28	3.70	6.72	4.61	25.30	13.98	11.33	21.2
1500-1599	12.97	3.18	4.19	4.05	24.39	16.15	8.24	16.5
1600-1699	12.67	3.24	3.68	4.48	24.07	15.91	8.16	14.5
1700-1799	10.35	4.89	4.87	4.15	24.26	15.24	9.02	12.6
1800-1899	--	--	--	--	--	--	--	--
1900-1999	7.45	2.86	6.42	4.66	21.40	10.31	11.08	13.1
2000 & over	9.72	2.80	4.36	2.89	19.77	12.52	7.25	15.4
Average	10.15	3.55	5.65	5.56	24.90	13.70	11.21	15.9

CHART G

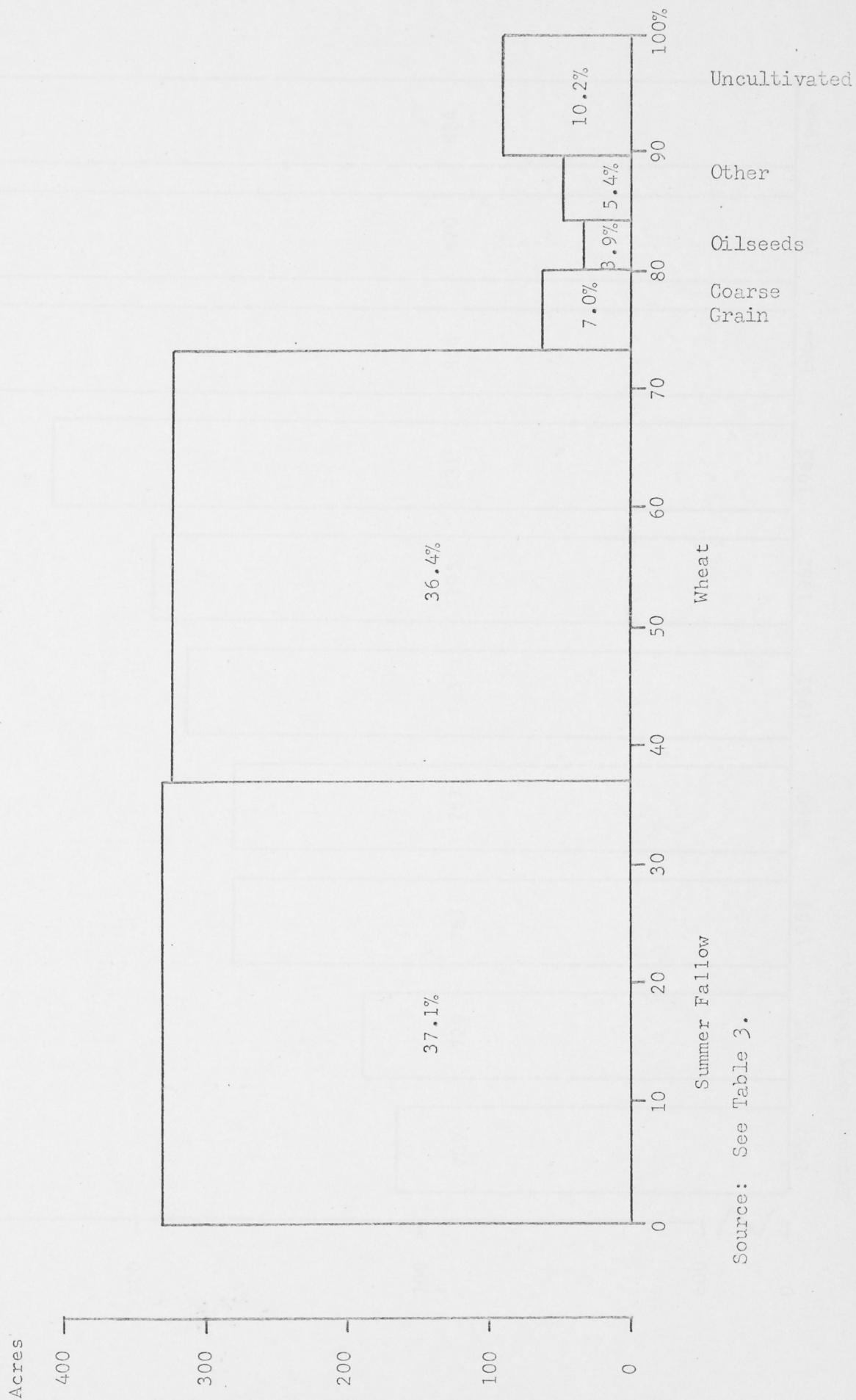
COUNTY OF VULCAN

Land Utilization in Terms of Average Acres per Farm 1966



Source: See Table 2.

CHART H
COUNTY OF VULCAN
Land Utilization in Terms of Per Cent of Total Farm
1966



Source: See Table 3.

CHART J
COUNTY OF VULCAN
Increase In Average Farm Size
1957-66

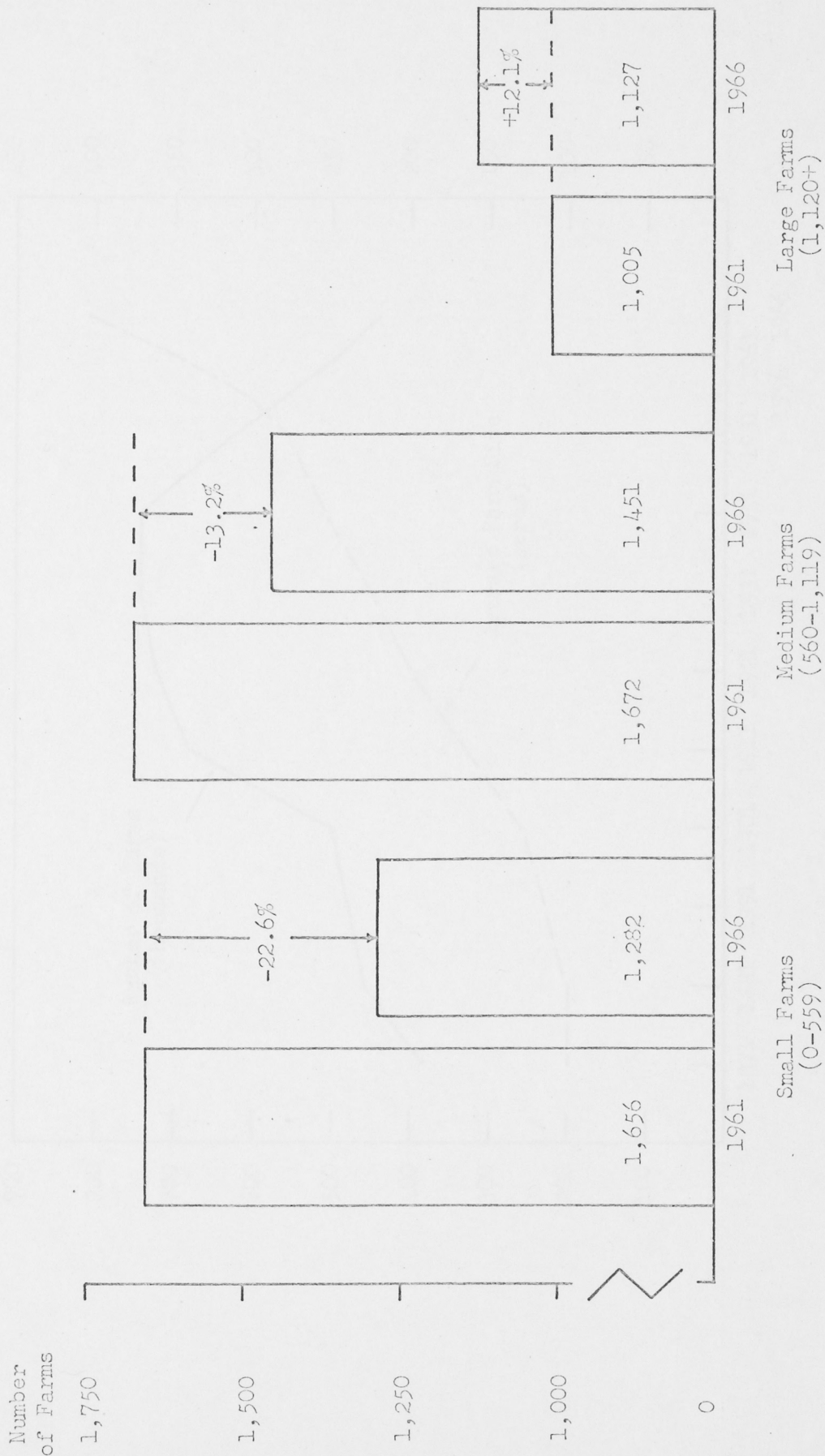


Source: See Table 4.



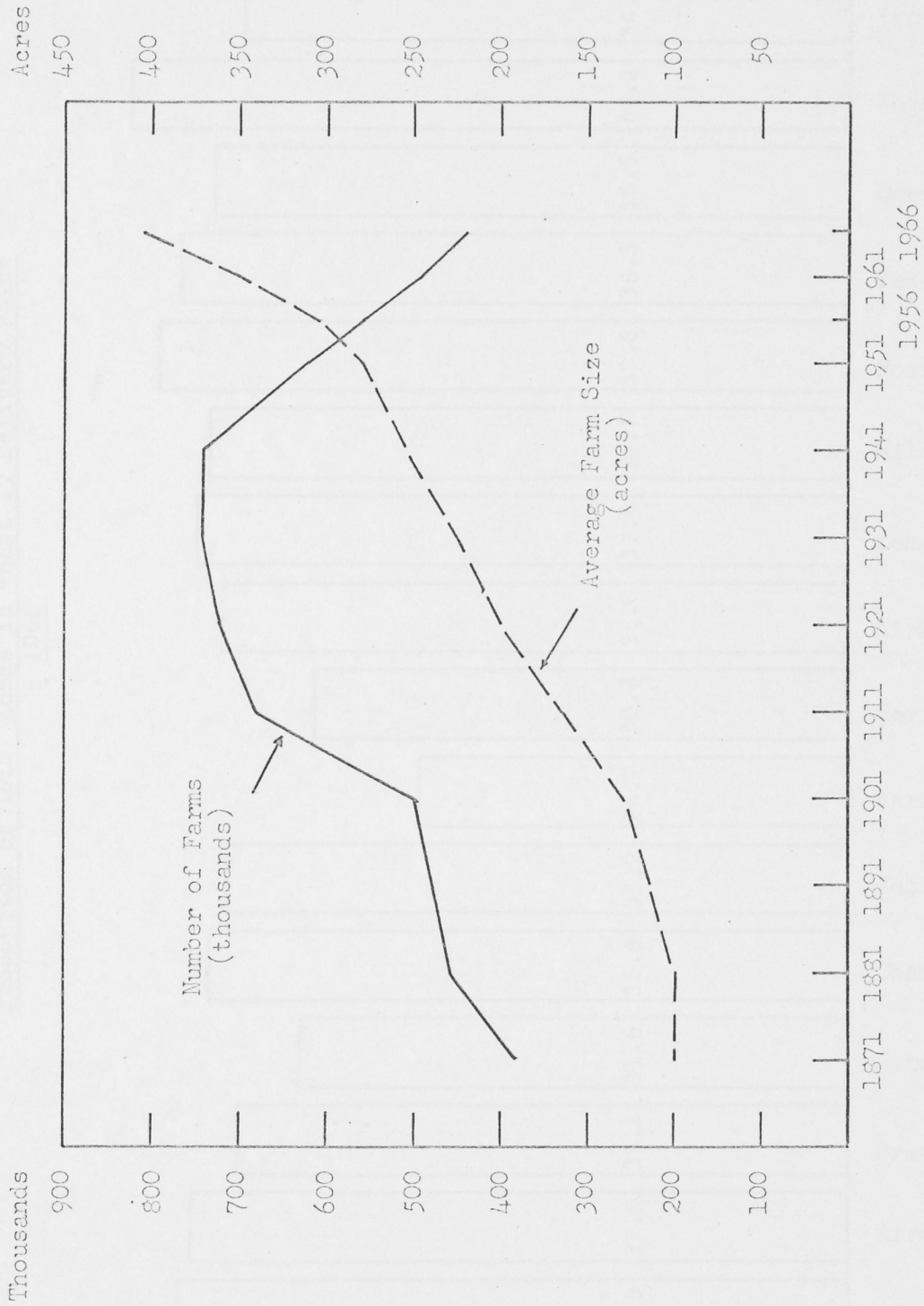
Source: See Table 4.

CHART L
CENSUS DIVISION NO. 5
Change in Farm Numbers
1961-1966



Source: See Table 5.

CHART M
CANADA
Changes in Number and Size of Farms
1871-1966



Source: Canadian Farm Economics, October, 1967.

CHART N
COUNTY OF VULCAN
Proportion of Total Acres in Wheat by Delivery Point
1966

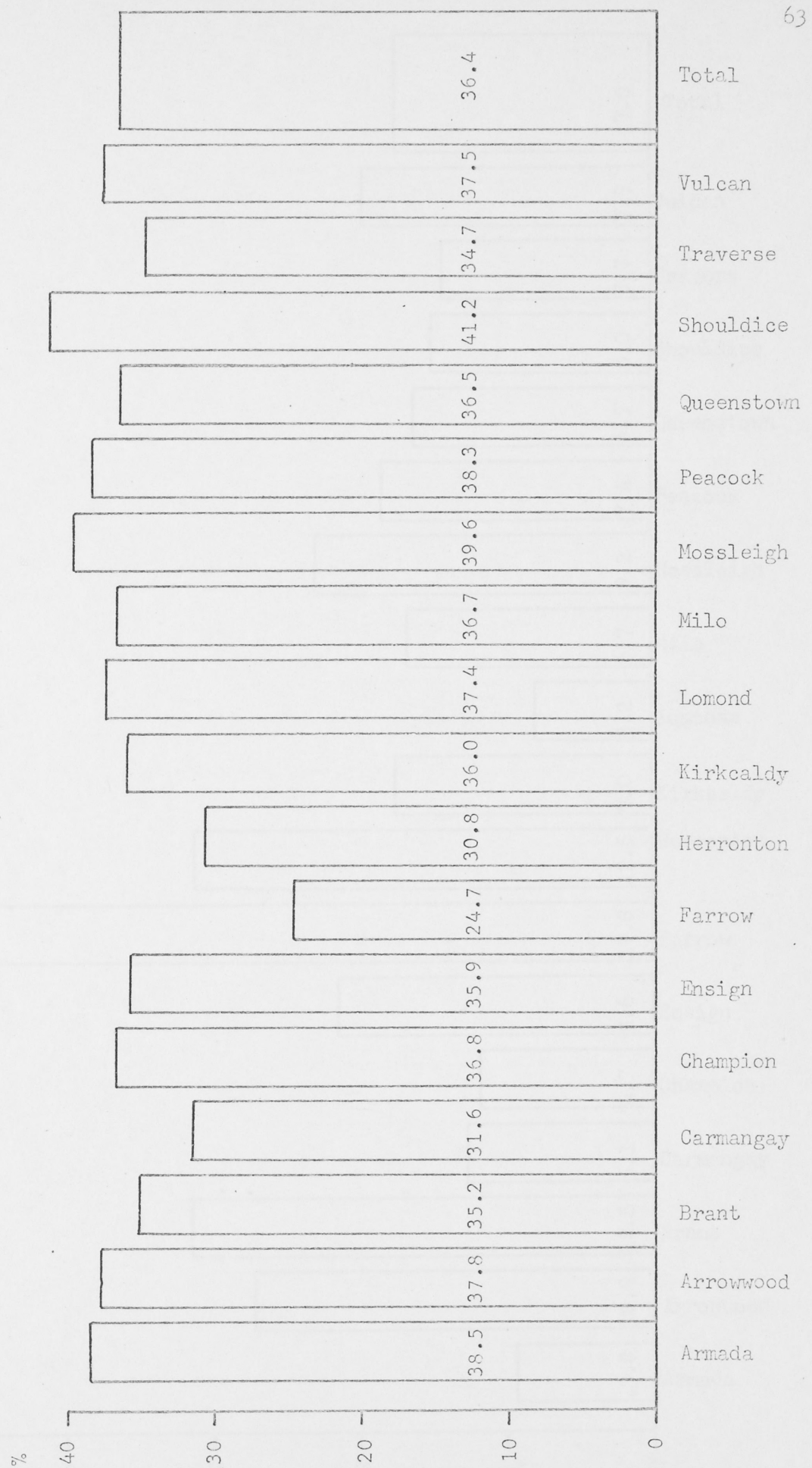
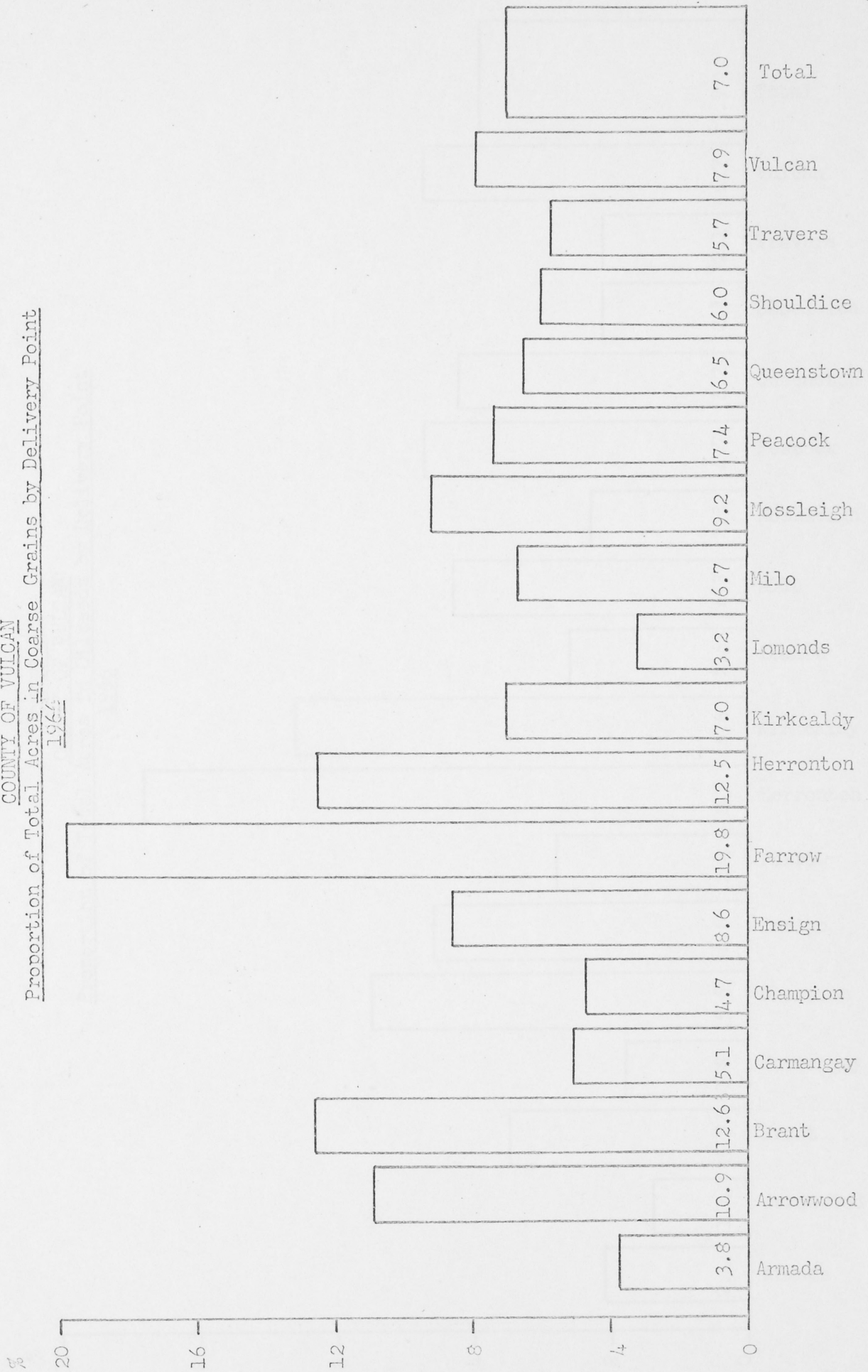
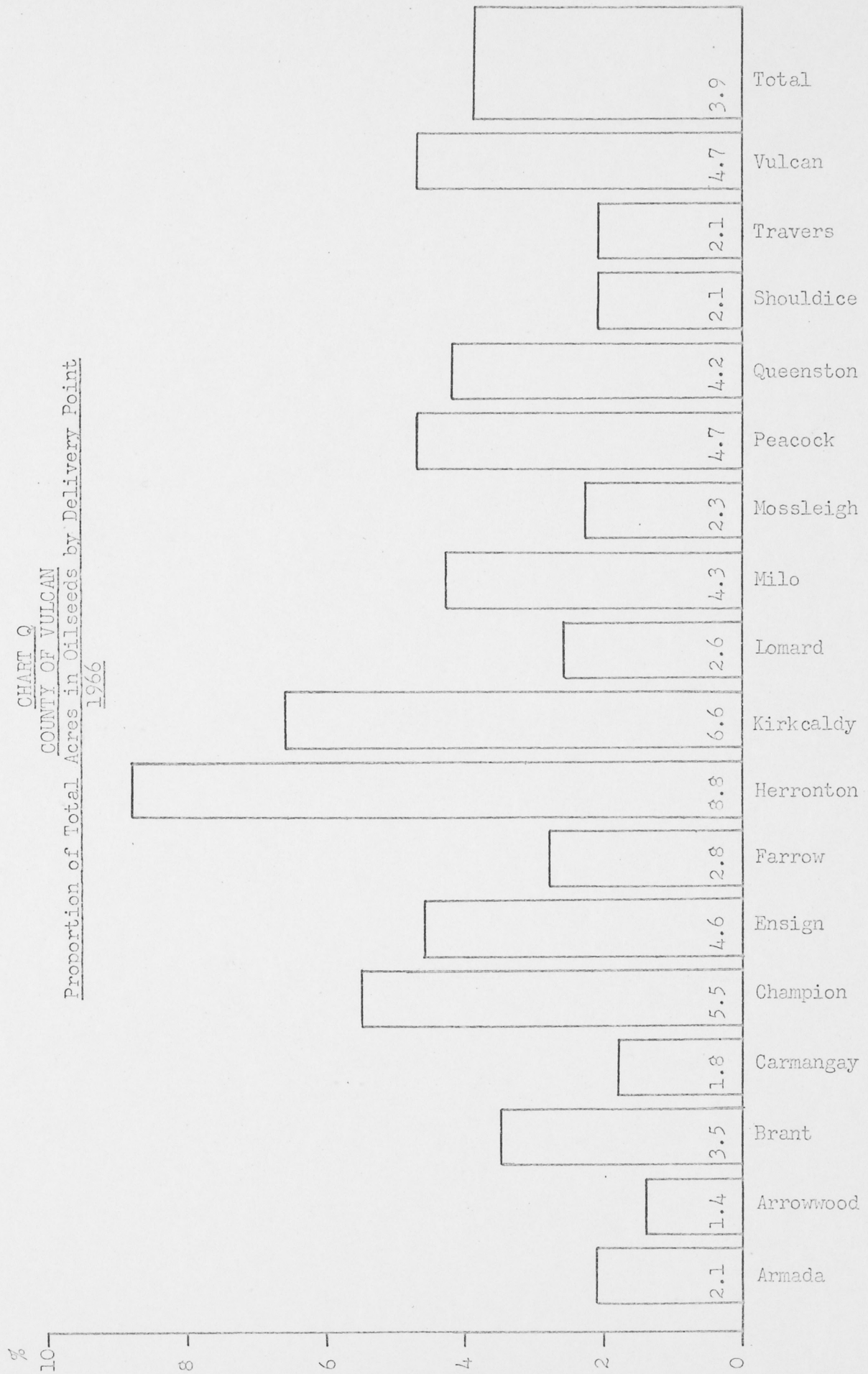


CHART P
COUNTY OF VULCAN
Proportion of Total Acres in Coarse Grains by Delivery Point
1966



Source: See Table 10.

CHART Q
COUNTY OF VULCAN
Proportion of Total Acres in Oilseeds by Delivery Point
1966



Source: See Table 10.

